THE BUILDER

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ILLUSTRATIONS.

REGENT'S QUADRANT COMPETITION: FIRST PREMIATED DESIGN. BY MESSRS. RICHARDSON & GILL, A.R.I.B.A.

DITTO, SECOND PREMIATED DESIGN. BY MR. ALBERT W. MOORE, F.R.I.B.A.

THAMES HOUSE, SOUTHWARK BRIDGE, E.C. MR. STANLEY HAMP, A.R.I.B.A. (OF MESSRS. COLLCUTT & HAMP), ARCHITECT.

ILLUSTRATIONS IN TEXT.

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SANENESS IN ARCHITECTURE.

IT is a matter for congratulation that passing phases do not pursue architecture so relentlessly as they do the sister arts. Architecture is too intimately concerned with the business of life to be shifted from its foundations by the gospel of yesterday. An art of three dimensions also moves slowly, whether forward or backward. "L'Art Nouveau," as it has been called, has, for instance, afflicted architecture but little. In Germany alone perhaps has it made itself an actuality. Yet from Germany also comes a voice sounding across the century, the voice of Goethe, the greatest of modern prophets, uttering a note which is in great measure the key to this article:—"The discerning man who acknowledges his limitations is not far off perfection."

It is a just recognition of the limitations imposed upon us, in the first place by tradition, and in the second by the exigencies of material, opportunity, and environment, that conduce to the saneness of design. "The new art" was born of a restlessness that fell upon us reasonably or unreasonably—the latter, as we think. The desire for change enters by nature into every department of life, art included. The legitimate course of change is by evolution, by development. But change nature will have, and if retarded by too fixed conditions, or by a lack of stability in her agents, existing conditions are reduced by violence. Regions which enjoy prolonged climatic conditions are visited by tornadoes. When social economies are at a standstill revolutions occur. Periods of rest which inevitably follow those of exceptional creative activity are certain to be invaded by changes introducing tendencies that have in themselves little or nothing to justify them—little puffs that fill the sail for the moment and leave it flapping as idly as before. There can be no doubt that the arts collectively are suffering comparative exhaustion consequent upon the Victorian period.

This era, once considered as almost a byword of reproach concerning the arts, we cannot doubt will be ultimately recognised as among the greatest epochs of their development. It was unfortunate for them that science took precedence and saturated the thought and expression of the time. Construction was mistaken for architecture, imitation for the motives of painting and sculpture. Ruskin, the brilliant spokesman of the arts, was unfortunately chief among the misguided. In the cause of "truth" art shivered in her nakedness. In this wise the romanticism heralded by the poetry of Wordsworth, Coleridge, and Shelley was handicapped from the first, when it took the form of "Gothic revival." The Pre-Raphaelites best weathered the danger. They were saved by the *raison d'être* of their art, the magnificent opportunities of colour. To-day, alas, we have few enthusiasms! Yet we may adopt a saneness of outlook wherewith to protect ourselves from the lust of change, engineered by the "unchartered liberty" of an unrestrictive age. We may embrace the "freedom and content to be obtained only by the recognition of one's limits," and first and foremost among these limitations are those imposed by tradition. Revolt against tradition is much in the air at the moment. "You must go back to childhood," says the painter, or at least an influential section of the painter's

professional critics. It is in the semi-articulate lispings of the infant wherein true expression is to be found. Need we say that there is no going back? Poor, struggling humanity would not be where it is now if that gate had ever been open to it.

"Accept the place the Divine Providence has found for you, the society of your contemporaries, the connexion of events. Great men have always done so, and confided themselves, childlike, to the genius of their age." In this sense we may be children still. Nor is architecture without a tendency toward similar leanings. We refer to a noticeable return to the studied simplicity of the Neo-Greek school. When Stuart and Revett published their "Antiquities" a wealth of unsuspected beauty was revealed. It was a second classic Renaissance. Enthusiasm was natural and unbounded. Moreover, it came to a time when the "Grand Tour" was the necessary finish to all polite acquisitions. Its appeal was irresistible. These conditions do not prevail now. It must be conceded that such a style is safe, but, at the same time, it provides a possibility of starving and restricting architectural resource.

Restraint is a salutary quality in design of the first order. The Pantheon at Rome is an eminent example. With no accessories to assist it, it achieves the summit of architectural expression. There is exuberance in the daring of its conception. And there is exuberance in all art which is great. It belongs to the masterpieces of Greece, though due, it should be remembered, not to the architectural display alone, but to the combined effort of architect and sculptor. The ruins of the Parthenon arouse admiration, but it is left to our constructive imagination to realise its superlative grandeur when possessed of its sculpture and colour. What would the Mausoleum have been without its crowning Quadriga and the sculpture that peopled its base? Must not a Greek Renaissance, unless sculpture is prepared to play its part, be always at a disadvantage?

Tradition is something more than the acceptance of a phase which had its special significance in its own time. To isolate it is to turn a part of the natural current of tradition into a backwater. No sane person would endeavour to check individuality in design. But there is so much else in our history, and a national architecture can only be evolved by a full and generous appreciation. The freedom sought for in mediæval building may still seek expression though coupled with a style the modern world has found more useful and adaptable, more sympathetic. The genius of Wren and his successors is embodied in the cleavage between the old order of things and the new. With the Stuart revolutions the political and social conditions which now prevail were established. Wren created an essentially national architecture, and, whatever developments time may demand, it must retain its position as the corner stone of progress. In his detail alone he will be ever an example. Detail, right in itself, was put in the right place. Yet we cannot but fear that something of his influence has been jeopardised by the carelessness in such particulars shown in some of the recent building by those who would presumably be his followers. To play with the accepted treatment of text-books is permissible, and in resourceful hands this may be, and has been, successfully achieved. There is, moreover, often no authority for what has been tacitly accepted as orthodox. We believe it is now acknowledged that the Mausoleum entablature possessed no frieze, although all restorations indicate the contrary. But we have been even led to wonder in some prominent instances of ill-considered caprice whether architecture is really a serious pursuit or some new form of open-air recreation.

This is the converse of saneness, which shows a nice sense for proportions and values, while its converse stands as a definition of vulgarity—whether it outrages our sense of decency by exaggeration or bores by its banality.

Architecture enjoys opportunities today that have been denied it in the past. It no longer has to face an era of *laissez-faire* when commerce was grudging, and a narrow commercialism cast an eye of suspicion upon "improvements."

The demands made by material have for some time past received more adequate recognition than formerly was the case. Indeed, there are some who think that material should dominate over all other architectural claims. A new and individual treatment for steel and concrete construction is pressed. Yet this construction forms only the skeleton of a building. It creates no new static essentials. The Parthenon owes its distinctive character to the obvious treatment of column and beam; Santa Sophia to dome and rounded arch; Beauvais to the thrust of groined vault and pointed arch. We may reasonably hesitate to bestow on a reformed girder the dignity and sanctity of a style, and there is surely something of the narrow purview of the Gothic revival about the claim. Theories are a menace to art. There are certain materials that appeal for caress. The rigidity of steel is extremely useful, and it is not impossible to accept its services without misgiving.

The limitations imposed by opportunity—limitations which we must come to terms with for better or worse—are paramount in an era of town planning. They have been cruelly neglected. New streets have been cut and warehouses and offices erected on them—we are thinking of the City precincts especially—which are outside the pale even of discussion.

Yet town planning is not entirely a new thing. The Adam Brothers added a vast number of streets to the West End that are not without character. That their architecture is often unpretentious may be esteemed a virtue; but there is often more in it than the hasty survey reveals. The proportions of window openings have been carefully considered. The façades are broken by strings put just where they ought to be, while many of the doorways are masterpieces. Dealing with areas instead of small or isolated plots, they were enabled to group into blocks and form terraces.

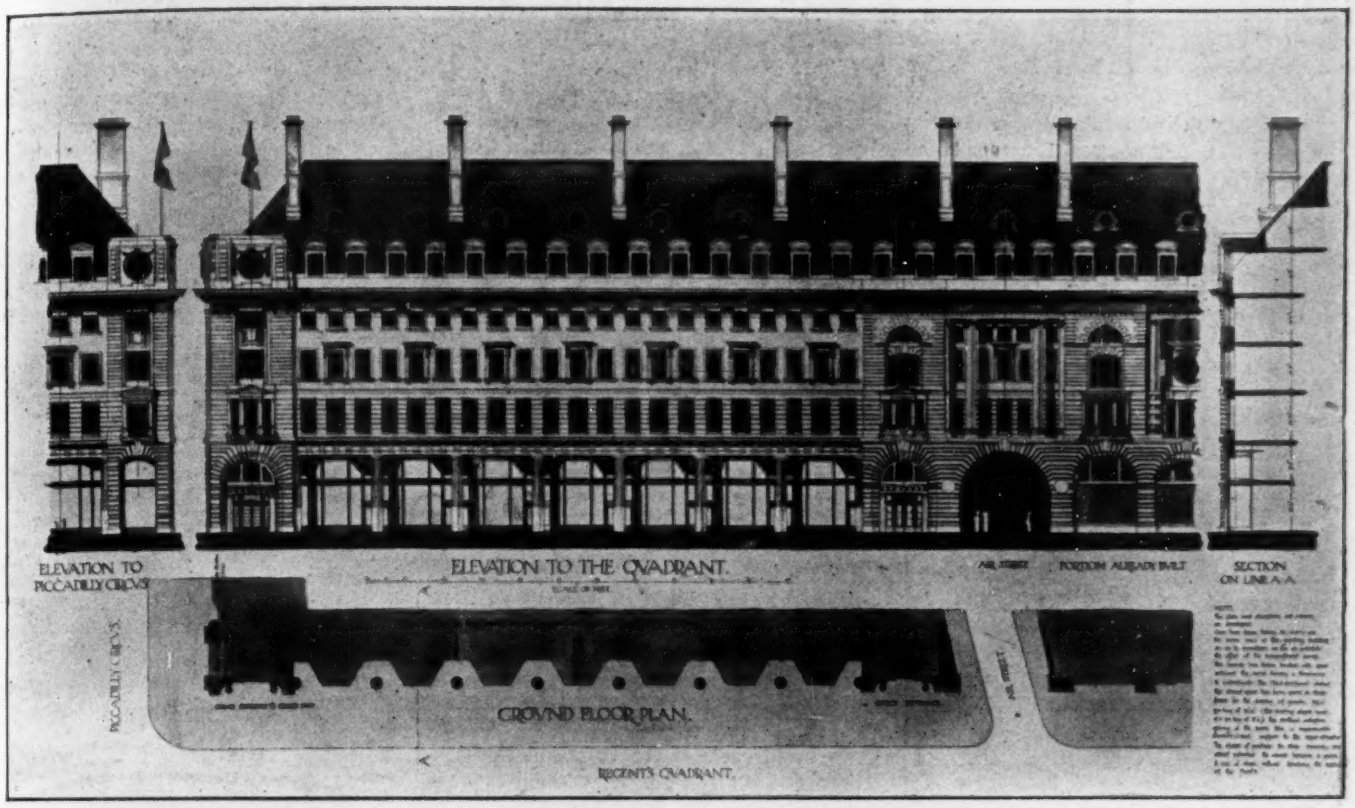
The Woods, of Bath, contrived to build the finest modern city in the kingdom. Queen-square, Bath, in which each side is treated as an architectural whole, is a lasting monument to their memory. The squares of Bloomsbury are, or were, the pride of London. Regent-street belongs to the same category, though let us hope that under the new scheme for its rebuilding we may take some pride in it still. It is a matter of regret that garden suburbs have failed to realise the advantages of terrace planning. Had each house a sufficient area of garden to make its independence real, rather than assumed, the experiment would be justified. But they so jostle each other as to dispute each other's attainments. In some reasonable uniformity might be found peace.

Some people are sensitive to what we may call the "genius of places." Ruskin was alluding to the same thing when he wrote "The Poetry of Architecture." Here the saneness of architecture is often sorely tested. Who is not familiar with the half-timber curiosities considered suitable to the cathedral city, although its period of greatest renown may be far removed from the mediæval? Or, again, the country house which is not a country house, or something which should be simple to avoid striking the garish note where its surroundings are dignified?

Vulgarity is painfully insistent in such situations as these. Indeed, by far too many opportunities are offered to the public for hostile criticism of architecture. Yet, despite such occasions, we believe and believe, as we are sure, with saneness upon our side, that architecture holds its own with credit among the arts. It has not been found wanting in emergencies. The demand made by the London School Board for suitable buildings thirty years or so since, was adequately met, and these school buildings are no unfit architectural monuments to the cause of education. Provincial municipal building, recently so much on the increase, has evolved a style in not a few instances worthy of its purpose. Where works of importance secured by competition have been criticised it must be remembered that the professional assessor is quite a late arrival upon the scenes. The public has been itself the judge, and itself selected the least praiseworthy design. Or, again, the exigencies of law have intervened, and a design has been mutilated to avoid an injunction, if not a penalty, while the stringency of the Local Government Act strews difficulties in the path. The public has not lent the aid of an intelligent interest as it has in France. It has praised where it should blame, and blamed where it should praise, ard the professional art critic is more at home in a gallery than in the street. There are, however, recent evidences of public movement. Town planning has become quite a topic of conversation. And this is all to the good. Mutual understandings remove individual misconceptions.

WANDSWORTH COMMON.

The Parks Committee of the London County Council suggest that the Council should contribute 6,000*l.* towards the acquisition, for use as a public open space, of about 20 acres of land adjoining the Royal Victoria Patriotic School, Wandsworth Common. Between the years 1891 and 1911 the population of Wandsworth increased from 155,490 to 311,402.



No. 95. Design by Messrs. Shepheard & Bower.

OUR REGENT'S QUADRANT COMPETITION.

THE award of the first prize to the excellent design by Messrs. Richardson & Gill, which we publish in this issue, will, we expect, most probably be taken as an expression of opinion on the part of the Assessors that the elevation of the Piccadilly Hotel is so entirely unsuitable to shop-fronts, and so lacking in the special character appropriate to Regent-street, that any attempt to secure a general harmony of effect by carrying on the same style or the actual features and details would not lead to a satisfactory result. If we accept the unsuitability of the hotel as an axiom needing no demonstration, we can understand that the more the new façade attempts to repeat the old one the less suitable it becomes for its position and for the purposes for which it would be erected. From this point of view, then, complete harmony of style with the Piccadilly Hotel is not the important thing—not of the essence of the problem.

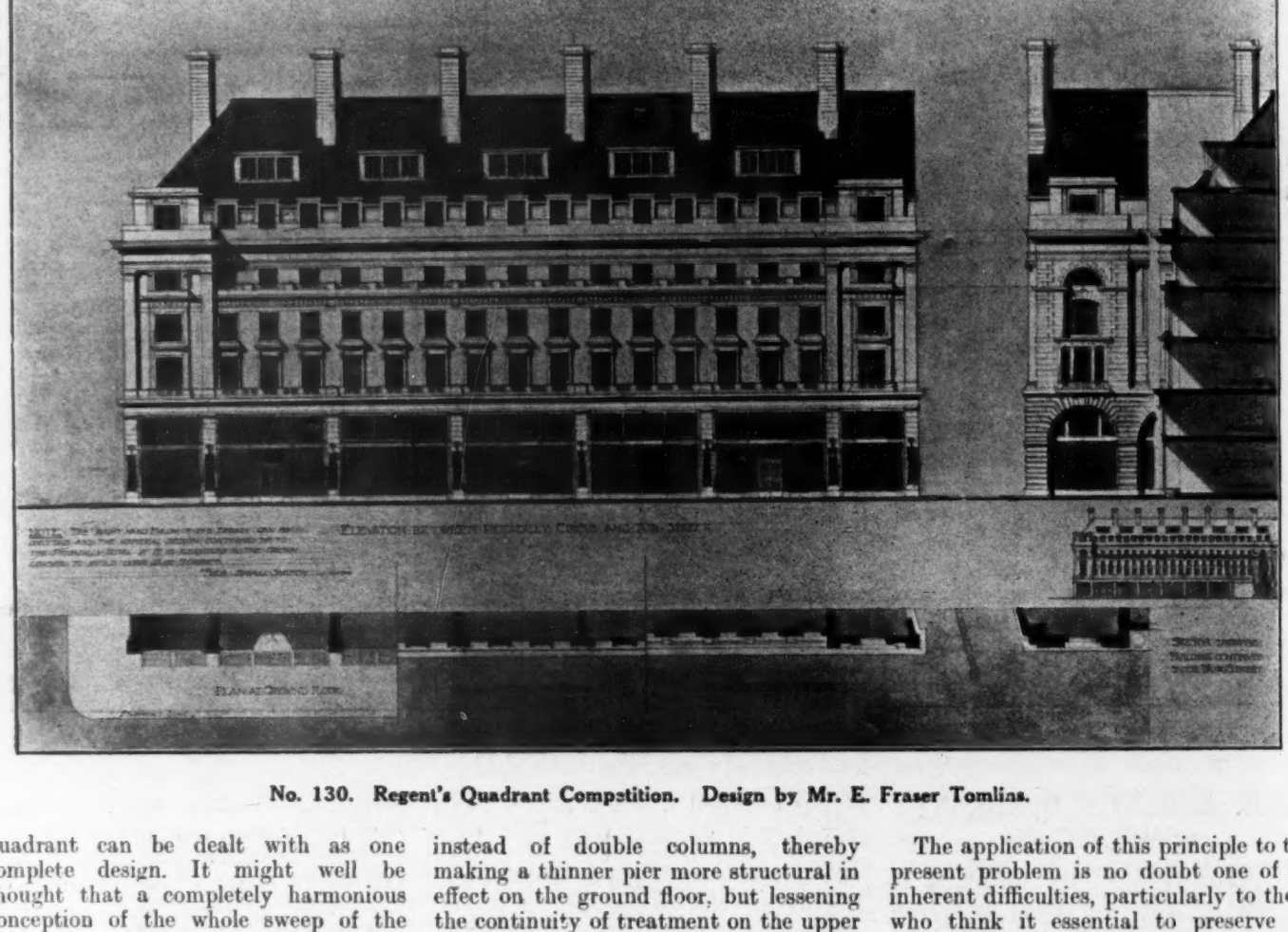
Those who take the opposite point of view and who hold that the present building is capable of such modification as would render it suitable to the retail trader and to general business requirements might perhaps be inclined to think that the winning design has so completely ignored the hotel as to run a risk of being thought to ignore this aspect of the problem also. This, however, is a matter of opinion on which the Assessors would be expected to exercise their own judgment.

The strong individualistic tendencies of English designers have always been opposed to restrictions of any description, but the disastrous effects of the absence of restrictions in our towns have led to a general recognition of their necessity. But even in the Continental cities, where individuality is not so highly esteemed it is not always found advisable to do more than insist on a general height for main cornices, trusting to the unity of style and sentiment which usually prevails, to produce the general harmony of effect required. It can easily be understood, then, that anyone holding the view that the hotel design is impossible might well consider that the winning design, by conforming to this restriction, has done all that can reasonably be expected as a concession to the existing building.

The trouble is that in this country there is no general unity of style or sentiment of sufficient strength to be consistently relied upon. To harmonise a white stone classic building with, say, a red brick Gothic one something more than an equality of height seems necessary, and although in this particular case the character of the winning design may be such that nothing more is required, it would hardly be safe to lay it down as a general rule that so long as the main cornice lines carry on we may confidently rely on producing general harmony of effect. In a quadrant such as this more particularly special value might well be attached not only to an unbroken sweep of horizontal lines, but also to continuity in the spacing of the vertical ones and in the general character of the design. It is difficult to see where it can be varied to advantage. Other things being equal, a quadrant might well be designed throughout by the same hand: but when it has been begun in a style which the Assessors appear to think unsuitable the problem of its completion raises so many delicate questions and involves so many apparently conflicting points of view that the choice of any one design as being a complete solution of the problem becomes a matter of much difficulty or even embarrassment.

One of these difficult points is the question of the roof, which does not appear to be settled in an altogether satisfactory manner by the winning design. Granted, as a general rule, that a strong crowning line having been established to carry the eye round the sweep of the quadrant, the features above it are relatively unimportant, and, as a matter of fact, not very noticeable in execution; still, in this case it really is rather difficult to imagine a satisfactory skyline to the quadrant if the hotel roof is to be left in its present condition. It is a question whether, however excellently the sweep of the façade may be treated, this roof is not too high and too noticeable to be ignored, and whether some treatment is not essential that in some way connects the roof with the angle building and mitigates the present unhappy effect of the unfinished gap at Air-street. This, however, is a question in which the competitors appear to have been equally divided, about one-half of their number carrying the present roof on, with or without slight modification, as may be seen in the three other premiated designs by Mr. Albert Moore, Messrs. Tait & Whitelaw, and Mr. Drysdale. The first of these is reproduced as one of our plates in this issue, and the other two will be published in due course. As they are referred to in the Assessors' report, which appeared in our issue of the 5th inst., no special mention of them is necessary, but we should like to take this opportunity of congratulating Mr. Drysdale on his charming suggestion for the treatment of a shop-front which has met with well-merited recognition.

A full half of the designs submitted show adaptations more or less successful of the Piccadilly Hotel, many of them seemingly influenced by the point of view that as the building is actually in existence and must remain it settles the general treatment and scale of the quadrant. In these circumstances, therefore, the best thing is to carry on this treatment with the necessary modifications, as by this method the whole



No. 130. Regent's Quadrant Compstition. Design by Mr. E. Fraser Tomlins.

quadrant can be dealt with as one complete design. It might well be thought that a completely harmonious conception of the whole sweep of the quadrant, providing for the practical requirements of the shops, even though the general result was somewhat out of character and scale with the nature of the street, would be more satisfactory in the end than the erection of buildings more in character with the street but less in scale and character with the hotel, even though they were pulled together by one or more general horizontal lines.

From this point of view a satisfactory harmony with the hotel would appear to be of the essence of the problem. Other things being equal, the greater this harmony the better the design. If this point of view is correct, the problem is simplified considerably, as the issue is narrowed down. But it rather seems to assume that the present building is so exactly suitable to its position and purpose as to be worth repetition, or that it is advisable to repeat a mistake for the sake of continuity of treatment.

These are propositions which the Assessors do not seem to have been able to accept, but had they done so their task would have been lighter, as, given the limitations of this point of view, the problem of balancing the concessions to the trader with the preservation of the general character of the hotel would, we think, be a comparatively easy one.

The various ways in which this has been attempted are worthy of study. Some competitors carry on the entire design, but hope to conciliate the shopkeeper by lessening the size of the arch piers to such an extent as to suggest an appearance of dangerous insecurity. Others, who wish to retain the arches for the sake of continuity of treatment on the ground floor, repeat only single instead of double columns, thereby making a thinner pier more structural in effect on the ground floor, but lessening the continuity of treatment on the upper ones.

Evidently there has been a strong feeling among many of the competitors that it was advisable to carry on the general vertical treatment of the upper floors of the hotel, and a comparison of the various designs suggests that where it is desired to preserve an unbroken rhythm of strongly marked vertical divisions, equality of spacing in the intercolumniation is wellnigh essential. But the repeat of these columns seems to lead to difficulties in adopting the design to practical business necessities. It calls for the continuation of the whole depth of the entablature, a most wasteful feature, and also for wider piers between the shops than would be otherwise necessary. Some designers try to get over the difficulty by repeating the coupled columns and by making the piers below of sufficient width to take small windows or doors, some put single columns and piers as fine as is consistent with an appearance of strength, while others boldly place their single or coupled columns over a plate-glass window.

It seems only reasonable to suggest that where it is essential that the lower story of a building should be of glass the application of an order to the stories above is a gratuitous creation of difficulties. The large opening seems to call for a horizontal treatment above it, not for strong vertical lines which attract and offend the eye by their absence of apparent support. An order on the first floor should express something definite, such as the council chamber of a town hall or the *piano nobile* of an Italian palace, and we can at the moment think of no type of building which naturally demands a large order on the upper floors with a ground floor of glass below.

The application of this principle to the present problem is no doubt one of its inherent difficulties, particularly to those who think it essential to preserve an unbroken continuity of vertical treatment round the whole sweep of the quadrant.

Others, however, have appreciated the practical and æsthetic advantages to be obtained by the omission of the columns, and appear to have aimed at a compromise which does not require the deep entablature above or the arches or heavy piers below, but which, at the same time, preserves the general character of the hotel, though it loses any advantage there may be in an exact repeat of the spacing of its vertical divisions. The treatment is well illustrated by No. 95, by Messrs. Shepheard & Bower, a design we now reproduce, together with others by Mr. E. F. Tomlins (No. 130) and Mr. W. Harvey (No. 44). All of these, as well as No. 124, by Messrs. R. Cromie & T. H. Gibbs, which we hope to illustrate in a later number, are designs which appear to us to have some special interest or merit, though they are not necessarily those which in our opinion present the best solution of the problem.

It will be remembered that the answers to questions left it open to the competitors to treat the upper floors as showrooms or as offices at their own discretion. The introduction of a large store on the lines of Selfridge's or the Magasin de Printemps in Paris, which needs a glass treatment up to the main cornice, appears to complicate needlessly the problem, and to make it still more difficult to obtain any harmony of treatment with the general character of the neighbourhood, which consideration appears to have had some weight with the Assessors. But at the same time it is evident that such a treatment, as illustrated by Messrs. Tait & Whitelaw's

design, or, again, by No. 36, by Mr. Cyril Farey, affords more opportunity for carrying on a columnal treatment on the upper floors in a logical manner, and though a street of large stores would not be the Regent's Quadrant we know, or have the character of a shopping street with offices or rooms above, there seems to be nothing in the conditions which prevents its transformation into a street of large stores more typical of certain commercial tendencies of the day. To this end the general setting out of the hotel façade appears more suitable than to the treatment which has been awarded the prize.

It is impossible, however, for us in the space at our disposal to deal with all the general considerations which this interesting competition suggests. Neither is it possible, where so many drawings are concerned, to refer to them all in detail. There are many of great merit, whether as designs or as drawings. Apart from the designs which we hope to reproduce, those of which we made a note as illustrating some point that interested us are as follows:—No. 58, by Mr. L. E. Williams; Nos. 49 and 50, by Mr. W. H. Ludlow; No. 34, by Mr. L. H. Rose; No. 71, by Mr. T. Baddock; No. 88, by Mr. W. E. Vernon Compton; No. 68, by Mr. L. S. Sullivan; Nos. 105 and 107, by Professor Beresford Pite; No. 108, by Messrs. Horace Field & Simmons; No. 43, by Messrs. F. E. Williams & Alfred Cox; No. 117, by Messrs. Greenaway & Newberry; and No. 3, by Mr. Philip Tilden.

This list, however, by no means exhausts the number of those designs which appeared to us to show considerable merit, and we can only repeat our thanks to one and all for contributing to the success of the competition.

If we cannot flatter ourselves that the result of this competition has been to produce any one design which will be generally recognised as a complete solution of the problem from every point of view, at least we may be permitted to hope that it has exposed certain aspects of the question to which attention had not previously been directed, and that it may have suggested the lines on which the whole problem may ultimately be solved.

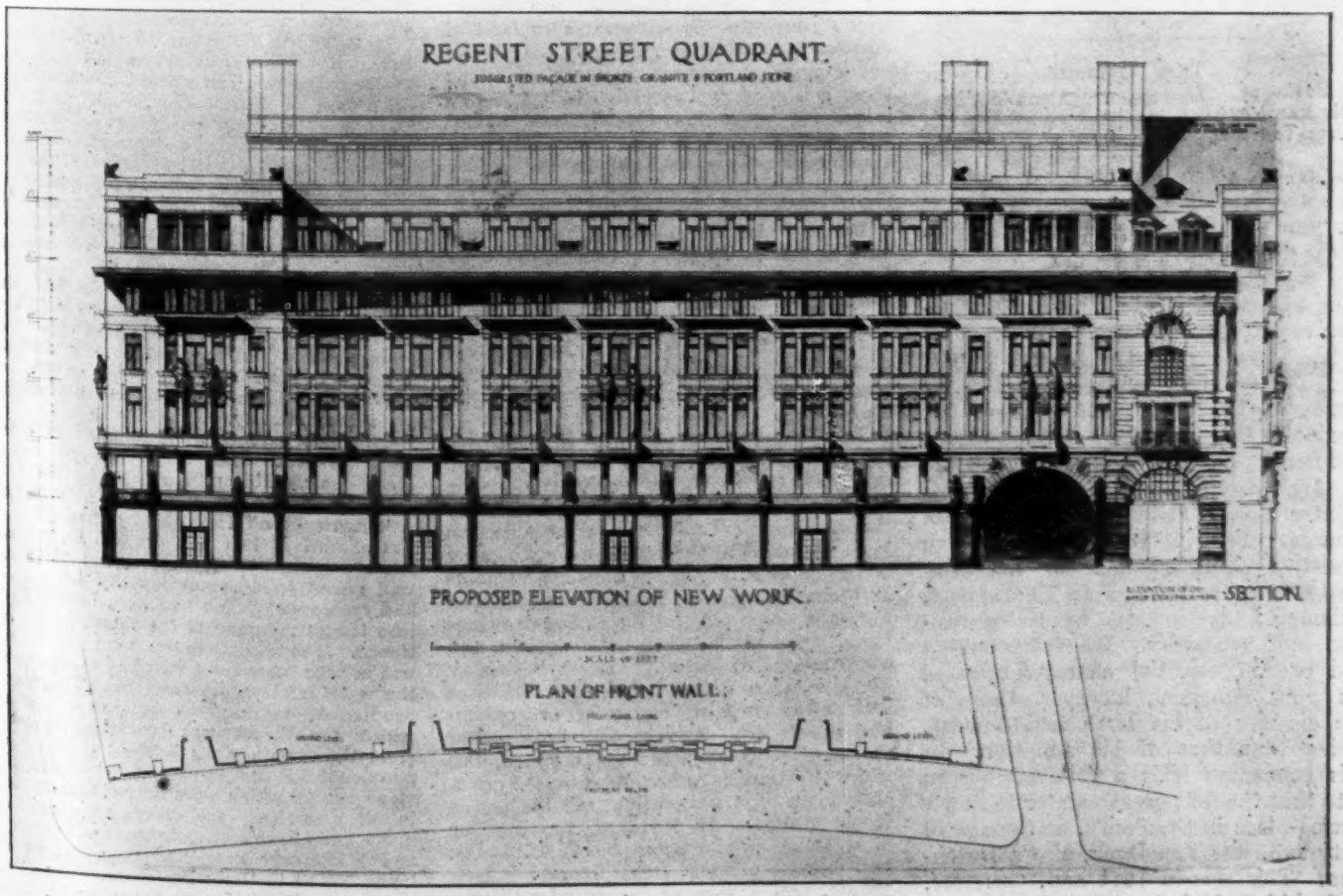
NOTES.

The Personal Qualifications of the Architect.

In the leading article of a previous issue we called attention to the benefits which might be expected if all those who entered the profession possessed the natural aptitude, taste, and type of mind necessary to genuine success. We suggested that some method, in which the public schools and Universities might possibly co-operate, should be adopted for encouraging the right type of student to enter the profession and for discouraging the wrong type. We are interested, therefore, to notice that the Slade Professor of Fine Arts at Cambridge, Mr. E. S. Prior, has referred in a recent address to the personal qualifications characteristic of the architect and of the craftsman. It is to be hoped that the subject will be continually kept in mind at Cambridge, and that opportunities will arise for an interchange of ideas between the various Universities and those responsible for our present system of architectural education with a view to the advisability of taking combined action in the matter.

The Exploitation of Monuments of Historic Interest.

The exploitation of our national monuments promises to become a serious business, unless the State steps in, as in Italy, to preserve its national treasures. From a correspondence in the *Times* a little while ago it appeared that Stonehenge might, at the caprice of a private owner, be transported to America. That is not likely; but the mere fact that it might in certain circumstances be possible, suggests a danger against which the country should be forearmed. In a general way the private owners of objects of historic interest are not indifferent to their possessions and guard them loyally, notwithstanding considerable temptations to part with them. And the rights of a private owner should only in the very last resort be interfered with. The old Globe Room has been removed from Banbury, and a certain section of the Press is creating considerable agitation on the point. Probably no class of the community can better appreciate the value of the old Globe Room than architects, and we certainly should like to see this specimen of domestic work retained in this country. But there are national treasures and national treasures; and the old Globe Room is by no means an only or unique specimen of its kind. The older type of vandal who was indifferent to such historic documents has been succeeded by a new type of vandal who regards them largely as objects for profit and commercial exploitation. If this sort of transaction is encouraged, the inflated prices which are asked for old masters in painting will extend to everything removable which a country may most desire to preserve. The old Globe Room has, however, now been transplanted, and



No. 44. Design by Mr. William Harvey.

the historic interest largely departs with transplantation. The old Globe Room adorning the sumptuous habitation of an American millionaire can never be quite the same thing, or possess quite the same interest, as the old Globe Room *in situ*, in use as an inn parlour at Banbury. In any case, we need not be alarmed at the cry of "Going—going—gone!" in this particular instance, although it is sufficiently serious to indicate a warning in regard to the preservation of works of art and craft which have some claim to be considered of national interest and historic value.

Proposed Destruction of Whitgift Hospital.

OUR readers will remember that some twelve months ago an application was made by the Croydon Borough Council to the Local Government Board for powers to compulsorily acquire the Elizabethan almshouses known as the Whitgift Hospital, and that Mr. John Burns gave the matter his personal attention. This proposal was brought about by the fact that the main street, which is very narrow, is gradually being widened, and Mr. Burns refused to give his decision until the Council had submitted the whole scheme for widening. On Monday, the 8th inst., four schemes were presented by the Streets Improvements Committee to the Borough Council, the one which they recommended continuing the line of widening: this, if carried out, means the demolition of about half the hospital to widen the George-street corner. We hope that the opposition of public opinion to this piece of vandalism will be strong enough to prevent the demolition of any portion of this ancient edifice. So many of our historic buildings have been ruthlessly swept away or improved out of recognition that we can ill afford to lose such a well-known landmark.

Burial of Sir Lawrence Alma-Tadema.

THE remains of Sir Lawrence Alma-Tadema were buried, with all the distinction and circumstance to which his qualities both as an artist and as a man entitled him, at St. Paul's Cathedral on Friday, July 5. The ceremony was imposing and beautiful, and was largely attended by royal and civic representatives, by men of distinction in all paths of art, as well as by a large number of the general public. Architecture was represented by Sir Aston Webb, Sir Ernest George, Mr. Reginald Blomfield, Mr. John Belcher, and many other members of the Institute of Architects, of which the deceased painter was a Gold Medallist and an Honorary Fellow. It is, we believe, an unsettled point whether Sir Lawrence was ever naturalised as an Englishman, although he became one by acclimatisation and sympathy. His temperament and certain essential characteristics of his work remained, however, those of the country of his birth and descent, rather than that of his adoption. In this connexion it is a little curious to note that the first great painter to find a resting-place in St. Paul's, at the age of forty-two, was Van Dyck, also a Dutchman. This was in 1641 and, therefore, in the old Cathedral.

EXHIBITION OF DRAWINGS AND SKETCHES AT THE BRITISH MUSEUM.

SIR SIDNEY COLVIN'S term as Keeper of the Prints and Drawings, a position which he has held since 1883, has come to an end. The exhibition of original drawings and sketches, therefore, which has been recently opened in the gallery adjoining the Print Room at the British Museum will be the last organised and arranged under his official control. The collection only comprises works which have been acquired during the last eight years, but it provides ample testimony of the taste, discretion, and broad-minded judgment which have obtained in the department over which Sir Sidney Colvin has presided for so considerable a period. Many of the finest exhibits have been presented, others have been purchased—319 have, in fact, been purchased out of a total number of 565. The purchases are probably directly due to the initiative of the Keeper or his assistants; the almost priceless gifts may have been often indirectly due to the same source of inspiration. At any rate, they are a tribute to the faith of great collectors in the competence and care of this department of our national collections. It is not our object to indulge in a panegyric of the late Keeper, but as this exhibition has been opened at the moment of his retirement we should be an ungrateful public indeed if we did not render passing homage to the value of labours which have operated so beneficially on behalf of our national artistic credit.

The exhibition covers a large area of artistic effort; it includes both great and comparatively small masters—the old masters of various continental schools, of the British school, and some examples of British artists who are still living. None can complain of a lack of catholicity in the acquisition or choice of these specimens. From the point of view of architecture there is much in the general type of the drawings to interest the student of draughtsmanship, while there is a certain number which possesses a more direct architectural value. From an album of eighty-four original drawings, for instance, by Piranesi eleven examples are shown, which illustrate his adventures in fanciful creation in architecture, either in the Roman or Renaissance manner, in many of which there is a good deal of delightfully free and interesting penwork. Equally fanciful, but the conception of a more formalistic and conservative decorative gift in the rococo manner which he affected are four designs for stage scenery by Bibiena (Giuseppe Galli). There are also an interesting classic ruin with figures by Pannini, a Venetian view by Guardi, and, to come to the Dutch school, an effective drawing of a palace on a wharf by Moucheron. Canale is represented by six drawings which admirably illustrate his genius for topographical precision combined with pictorial composition and atmosphere.

There are many more or less fugitive examples of architectural or purely decorative draughtsmanship to be found among the artists of the British school; and certainly the *bonne-bouche* of this phase of the collection is to be found in the fourteen drawings by Alfred Stevens, which are not only valuable on their own account, but also on account of the light which some of the earlier drawings throw upon his native artistic instinct and evolution as an artist. They also display his gifts as a decorative designer in vases and other smaller forms of ornamental and plastic art. Among other drawings of the same school which may be noted, but which are not of great importance, are a sketch for the decoration of Burlington House staircase by Stothard, the drawing of a Tudor chimneypiece by C. R. Leslie, two water-colours (the Doge's Palace, Venice, and a view of Segesta) by Charles Vacher, and a Corfe castle by Joseph Nash. A view in Paris by Richard Parkes Bonington is a brilliant example of an English artist the importance of whose work is too little realised in his own country. Mr. Muirhead Bone and Mr. E. H. New possess the distinction of a place among the few examples of work by living artists.

For the rest, the collection as a whole must be seen to be appreciated; it contains examples of the world's greatest masters in painting. When Dr. Burnet's addition to the British Museum is available for use a portion of the new building will, we understand, be allocated for the permanent exhibition of original drawings and sketches. We have often insisted in our pages on the value of an artist's drawings and sketches, on their importance often as veritable works of art which in inspiration and genuine artistic vitality may surpass works of more elaborate workmanship by the same painters. In any event they go to show the processes of achievement in the making, as in the case of the wonderful Tintoretto sketches in tempera at the present exhibition. Tintoretto was counted as the greatest *improvisatore* among painters, but his pictures, we find, involved many conscious experiments before he arrived at the effect of fluency and ease hitherto ascribed as improvisation.

WINCHESTER CATHEDRAL.

ON Monday next, the 15th inst., the King and Queen will attend a Thanksgiving Service at Winchester Cathedral, and will afterwards visit Winchester College. We propose to deal in our next issue with the past and present condition of this most interesting cathedral. Meanwhile we are able to print the official Report of the architect, Mr. T. G. Jackson, R.A., to the Dean, which is as follows:—

14, Buckingham-street,
Strand, W.C.
May 1, 1912.

DEAR MR. DEAN—As we are now after seven years' work arrived at the last stage of all the repairs that have been contemplated it may be useful for the information of your subscribers, and the public generally, if I give a brief account of what has been done.

It is hardly necessary to repeat that the cause of all the mischief is the nature of the foundation. The whole Cathedral stands on a bed of compressible, loamy soil overlying peat, which in some places is 7 ft. thick. This rests generally at a depth of from 20 ft. to 24 ft. on a compact, hard gravel, heavily charged with water; but in some cases there is a thin bed of soft, chalky silt between the two. It would hardly be possible to find a worse foundation on which to place a heavy building.

The case is complicated by the fact that the whole of the subsoil at the depth of 10 ft., and in some seasons less, is charged with water, and it was on reaching this that the old foundations stopped, the Norman and mediæval builders having no means of coping with the difficulty.

The first part that excited serious alarm was the south wall of Bishop de Lucy's Retro-choir. This wall had sunk from 7 in. in the middle to nearly 2 ft. at the east end, and had split off from the Norman work to the west of it, leaving a crack 5 in. wide.

On examination it was found that the wall rested on a double layer of beech-trees laid crossways, which had been forced down into the soft ground to the extent first mentioned. The north side was not much better, and in both cases the vaults had overpowered the walls and thrust them out of the perpendicular, tearing the buttress piers, on which the thrust was concentrated, away from the curtain walls between them. This movement of the walls had dislocated the stone vaults, which were bulged and cracked in all directions, the ribs having sunk so badly as to have lost their curve of stability, and being only prevented from falling by being bolted to timbering above. The situation was critical, for on February 26, 1906, a stone did actually fall from the groining

of the north presbytery aisle, near Bishop Wayneflete's Chantry, and more was ready to follow.

The vaulting of the crypts was disturbed throughout, partly by the movement of all the walls, and partly by the settlement of the piers from which the vaulting sprang.

The condition of the choir and choir aisles was not quite so dangerous as that of the presbytery, but the walls were seriously cracked and the vaulting of the aisles so much disturbed that parts were actually unsafe.

The great transepts of the original Norman building were in a condition to cause the gravest anxiety. Cracks had appeared in the walls of the north transept so large that daylight could be seen through them, and both the north end and the side walls were dislocated in all directions. But the south transept was far worse, the end wall being broken away by great fissures from the side walls and having an inclination of over 4 ft. in a height of 120, which nearly brought the centre of gravity outside the base. The side walls also were badly ruptured, and that on the east inclined seriously outwards.

It was expected that farther westward the foundation would not be so bad, but we were disappointed to find it no better in the nave than at the east end. In fact, one of the worst parts is on a line across the church near Wykeham's Chantry. The south wall, consisting of Norman work cased with Perpendicular masonry, leans seriously outward having drawn the roof away from the clearstory of the nave and caused the flying buttresses, which are concealed under the roof and curiously combined with the transverse vaulting ribs of the aisle, to drop and become disjointed.

On the north side the same settlements had occurred. To this side Bishop William of Wykeham had applied buttresses with pinnacles; but, as their foundation was not even so deep as that of the Norman work, they have done more harm than good by hanging on the wall instead of supporting it.

The central tower, which is not of Bishop Walkelyn's building, but was rebuilt after the fall of his tower in 1107, is cracked in several places.

The best part of the structure, as regards stability, is Bishop Edington's west front, and the short length of the nave which he built. His front stands on the east side of the massive western towers and porch of the original building, which projected 40 ft. further westward.

This general disturbance of the walls affected the flying buttresses of the choir, which had sunk and were in imminent danger of falling, their abutment having given way and drawn them away from the clearstory wall. The choir vault, being of wood, has little thrust, if any, but it is remarkable that the flying buttresses in other parts of the church which are opposed to stone vaults have given way, owing to the walls of abutment having gone outwards, and not owing to the pressure of the nave vaults, which they have left standing securely without them. Those in the choir are, of course, merely ornamental, and those of the nave appear to be unnecessary.

I need hardly say that the problem before me when you consulted me in 1905 was very difficult of solution.

It was obviously necessary to replace the soft foundation by something solid, but the first hard bottom to be found was the gravel bed at a depth of 20 ft. and more, 10 ft. below water level. The underpinning on to the gravel of one corner of the church which I first undertook was not altogether satisfactory, and proved very expensive. With your consent I thereupon consulted my friend Mr. Francis Fox, the Civil Engineer, who had, I knew, great experience of subaqueous building, and by his advice a diver was employed to lay the lower courses of the underpinning under water, on which the masons and bricklayers carried the rest up to the old foundations.

In this way the Retro-choir and Lady Chapel were underpinned successfully.

The question then was how far to continue the underpinning of the rest of the Cathedral. The whole of it stood on the same soft beds, and the ideal remedy, of course, would have been to underpin it all on the gravel stratum, 20 ft. or 24 ft. down. This was so gigantic an undertaking, involving among other things taking down and reconstructing the chantries, that I naturally sought an alternative. It seemed to me that the great piers of the interior must, in the course of more than 800 years, have compressed the peat to the utmost, provided lateral expansion were prevented, and that consequently if the outer walls were underpinned down to the gravel, and the interior soil confined, this result might be obtained. It was obvious that the outer walls, at all events, must be underpinned at once to prevent their falling, whether the interior were dealt with or not. And it was decided to leave further work to the interior to be undertaken hereafter should it prove necessary, which there was good reason to hope would not be the case.

On this principle the repairs have been conducted, and the underpinning has been confined to the outer walls. Experience alone can show whether what we have done is sufficient, but from accurate observations that have been made, and regularly continued up to the present time, there is good reason to believe that the main fabric is now stable, and that the principle on which we have worked is just.

The most hazardous part of the operations has naturally been the south transept. To underpin so vast a wall, 120 ft. high and nearly 4 ft. 6 in. out of the upright, required some courage. It has, however, been done; the lower part has been strengthened by bringing it forward with large buttresses, and the whole is strongly chained back to the side walls with iron ties. The shoring was slackened last August, and, as no movement has been detected, it is now being removed.

Of other work, the groining of De Lucy's Presbytery has been partly reconstructed and partly repaired; the flying buttresses of the choir have been reset, and those of the nave aisles repaired; the groining of the crypts has been grouted and made good, and some of the columns have been taken out and refixed on new foundations. The cracks of the main walls, of which there were more than 100 in all parts of the building, have been bonded with hard stone and grouted full of liquid cement with the Greathead grouting machine, which has been of the most valuable service. The tower has been strapped together with iron. The west end has been repaired and the pinnacles restored, but the foundations of this part have not been touched.

The south nave wall, which was actually in movement towards a fall, has been secured by buttresses, which are arched over an inner walk along the south side of the church; and these are the only evidences above ground of all that has been done to secure the building.

The work now approaching an end has been one of unusual difficulty, and has made constant demands upon one's invention and resources. We might, as I have shown, have done more; I am sure we could not have done less. I was strongly urged by more than one adviser to take down and rebuild the south side of De Lucy's work and the great south gable of the transept. It seemed to me that it was better to preserve them if it were possible, and they are therefore still standing, and I trust will stand for many generations.

At various stages of the work I have been able to avail myself of Mr. Fox's advice on points that belonged more especially to engineering than architecture, and I am under great obligations to him for his assistance. He has already sent you an independent report on the result of our operations.

I must not conclude this account without mention of the debt we owe to the diver, Mr. Walker, to whose careful work—work that admitted of no regular supervision—our success is so largely due.

In Messrs. Thompson, of Peterborough, we have had contractors whose experience in dealing with work of this kind has been invaluable, and we are also indebted to Mr. Long, the clerk of works, and to Mr. Ferrar, the builder's foreman, for constant and careful supervision of the operations.

I am, dear Mr. Dean,
Yours very truly,
(Signed) THOS. G. JACKSON, R.A.

BRITISH ARCHÆOLOGICAL ASSOCIATION:

CONGRESS AT GLOUCESTER.

(Concluded from page 5.)

Historic Gloucester.

MR. F. A. HYETT, who is the author of a book on "Gloucester in National History," then contributed a paper on the history of the city, recalling its many associations with our national annals from Roman times onwards. Much information was compressed in a short compass, and a specially interesting section of the paper was the account of the famous siege and the eventful career of Edward Massey, who was governor of the city during that period of storm and stress.

The Town Clerk, Mr. G. Sheffield Blakeway, explained the chief points of interest connected with the Corporation insignia, Charters, and other records.

Tuesday, June 25.

In the morning some of the interesting churches of the city were visited. First the antiquaries inspected the little church of St. Mary Magdalene, Wotton, which was described by the Rev. Canon Bartleet. Only the chancel remains. By an act of vandalism the Charity Trustees of Gloucester in 1861 pulled down the nave of the church, but the beautiful west doorway was preserved and built up inside the chancel arch. The church was connected with the Hospital of St. Mary Magdalene, which was a leper hospital, and in the XIIth century belonged to the Priory of Llanthony. The church, in spite of the rude treatment it has received, shows some fine Norman work. Two windows were inserted in the time of Edward IV.; there are the remains of a mural painting representing Our Lord, and there is a small stone effigy of a young maid of the date 1290. This was described by Miss Roper, who has made a special study of monumental effigies. The figure shows flowing ringlets bound by a fillet, and is clad in a simple costume, a long gown flowing down gracefully. She wears a narrow necklet, and has at her feet a lion or a dog. It is said that the figure was brought from the Hospital of St. Kineburgh. Some rude carvings on the exterior wall seem to represent the Star of the Epiphany, the Fleur-de-lis of the Blessed Virgin, and other devices supposed to be mementoes of pilgrims.

Our space will scarcely permit of a detailed account of all the churches and other objects inspected by the members. The church of St. Nicholas, described by Canon Bazeley, the municipal church, is full of interest. It is a XIIth-century church attached to the Hospital of St. Bartholomew, with Early English, Decorated, and Perpendicular additions. Its quadruple squint is remarkable: its spire has been shorn of its upper portion. On the tympanum of the South doorway is the Agnus Dei with cruciform nimbus, supporting the cross and banner on the left forefoot. The so-called "sanctuary" knocker is remarkable, showing a demon carrying off an intemperate woman, who tries to touch with her tongue a bunch of luscious grapes. The Church of St. Mary le Crypt and the ruined priory of St. Oswald, which requires immediate attention, as the arcade shows signs of collapse, were also visited, and some members of the party inspected the remains of the Blackfriars' house amidst the soda-water bottles of Messrs. Talbot, and the Roman wall amongst Messrs. Bollas's printing-presses.

In the afternoon we drove in brakes up the steep incline of the Cotswolds through Birdlip to the interesting church of Elkstone, a very remarkable building of Norman date. The tympanum surrounded by the zigzag and pellet ornament shows Our Lord in Majesty with evangelistic emblems.* There is a curious columbarium above the chancel. Amid torrents of rain the party drove to Pricknash Park, formerly the country seat of the Abbots of Gloucester, where they were hospitably entertained by Mr. Dyer-Edwardes. In the evening the Bishop of Gloucester and Mrs. Gibson gave a reception at the Palace.

Wednesday, June 26.

The Severn Valley was traversed on this day. Two of the shire's famous castles were visited.

* A full description of this and other Norman doorways in the county is given by Mr. Keyser in "The Memorials of Old Gloucestershire," edited by Rev. P. H. Ditchfield (G. Allen & Co.).

By the kind permission of Lord Fitzhardinge we were allowed to see Berkeley Castle under the guidance of Canon Bazeley, the shell keep, the baronial hall, the room in which Edward II. is supposed to have been murdered, the prison with its oubliette, where a huge fat toad is said to have fed on the unfortunate prisoners, the chapel, historic documents in admirable preservation, and the pictures, all affording much interest. The historic old church of Berkeley, one of the finest in the county, was next visited, and we read again the lines on the tombstone of Dicky Pearse:—

"Here lies the Earl of Suffolk's fool;
Men called him Dicky Pearse,
His folly serv'd to make folks laugh,
His wit and mirth were scarce.
Poor Dick, alas! is dead and gone,
What signifies to cry?
Dickys enough are still behind
To laugh at by-and-by.
Buried 18th June, 1728, aged 63 years."

After lunch at the Berkeley Arms Hotel we set out for Thornbury *viâ* Hill and Rockhampton. Thornbury Church belongs to the early XIIth-century period, with a decorated chancel built by Fitzhardinge of Berkeley in 1350. The tower is a very beautiful example of early XVIth-century work, and was restored in 1843. The Castle was inspected by the kind invitation of Sir Stafford and Lady Howard, and in their absence their daughter, Miss Alice Howard, welcomed the party, entertained them to tea, and conducted them through the building. In the evening Mr. F. W. Waller, F.R.S., B.A., read a valuable paper at the Guildhall on the "Tower of Gloucester Cathedral," illustrated by lantern slides. It is hoped that this will be published *in extenso*. It revealed the alarming responsibilities of a cathedral architect who has the care of such an important structure. The tower rests upon somewhat slender piers, which have to support an enormous weight, and the strain is aggravated by the great pressure of the wind. The thinness of the walls of the upper part is noticeable, and the ingenious manner in which Mr. Waller constructed his scaffolding for the work of restoration, resting the weight on the lower and more substantial portion of the tower, is an achievement which fills with wonder the lay mind.

Thursday, June 27.

Deerhurst and Tewkesbury were the places visited on this day, and these were reached in a pleasant mode by travelling in the *River Queen* steamboat along the Severn River. Deerhurst was the first stopping-place, where the vicar, the Rev. E. C. Parmenter, met the party, and the church was described by Canon Bazeley. With the exception of the Saxon church at Bradford-on-Avon, Deerhurst is perhaps the most important specimen of Saxon architecture in the kingdom. It has often been described, and will be well known to the readers of the *Builder*. The font is especially noticeable, and was described by Mr. Ditchfield. It had been ejected from the church at some unknown period. The upper portion was discovered by Bishop Wilberforce in 1845 and placed in Longdon Church. Miss Strickland, of Apperley Court, found the lower portion and succeeded in gaining both parts for the church. Professor Westwood considered that the spiral ornament was the most characteristic of all Celtic patterns, and the Bishop of Bristol pronounces it to be unmistakable Irish work combined with elegant classical Arabesque.* The neighbouring farmhouse contains remains of the old priory buildings. The Saxon Chapel of Odda was then visited, which was only discovered in 1885. Many pages would be required for a full description of this important early building.

At Tewkesbury the antiquarians were welcomed by the Mayor and Mayoress, Canon and Mrs. Wardell-Yerburgh, and other chief residents of the town, and lunched at the Swan Hotel. They then adjourned to the Abbey. Tewkesbury Abbey has so often been described that it is not necessary to record here its beauties and attractions, which were ably pointed out by the vicar and the sacristan, Mr. Bannister. The old town is remarkable for its number of beautiful specimens of half-timber houses, several of which were visited under the guidance of Mr. Godfrey. After tea at the vicarage we walked along the "bloody lane," the site of the Battle of Tewkesbury, concerning which Canon Bazeley has written learnedly, after much careful study of the scene of the engagement, and then from the Lower Lode steamed back to Gloucester.

The evening was profitably spent at the Museum, where Canon Bazeley lectured on some Roman inscribed tiles found during the excavations at Hucclecote, which disclosed the civilian character of Roman rule at Gloucester, and clearly established what was never surely known before. Mr. Payne exhibited some remains found in the Bown Hill Long Barrow and in the Bisley Long Barrow; and the President, Mr. Keyser, gave a short address on the mural paintings in Gloucestershire, on which subject he is one of our chief authorities.

Friday, June 28.

Bishop's Cleeve was the first place visited on Friday, which possesses a beautiful church. There was formerly here a priory founded by King Arthur of Mercia, in 790. The west and south doorways are Norman. The chancel was rebuilt in the XIVth century. The President pointed out the similarity between this and Bredon Church. There are some interesting monuments, including that of a knight, cross-legged, under a canopy with ball-flower ornament. It is supposed to be a memorial of one of the De Bohun family. We were then driven to Hayles Abbey, the history of which has been admirably written by Mr. St. Clair Baddeley. Excavations conducted by the local society have revealed the plan of this much despoiled Cistercian abbey, and the little museum contains some remarkably fine bosses and tiles.

Winchcombe, once the proud capital of Mercia, was next visited, and lunch was served in the George Inn, which was an old pilgrims' hostel, and has a galleried yard. The church is a splendid Perpendicular building erected by the last Abbot of Winchcombe, and contains many features of interest. Then a short walk brought us to the gates of Sudeley Castle, redolent with the memories of Queen Catherine Parr and her second husband, Lord Seymour of Sudeley, and the young Princess Elizabeth, who was sent away from the Castle because of her "unseemly romping" with my Lord of Sudeley. Many notable families have been connected with the Castle, and many royal visitors entertained there. The late Mrs. Dent wrote an admirable monograph on its history, and that lady and her husband did much to restore the Castle to its former splendour.

In the evening Mr. W. H. Bruton gave a reception at Bewick House and exhibited his fine collection of mezzotint engravings after Rembrandt.

Saturday, June 29.

The work of the Congress was brought to a conclusion, but before dispersing the members visited the interesting church of Bredon, a full account of which has appeared in the *Journal* of the Association, written by the President, and also the churches of Overbury and Beckford, which were described by Mr. Keyser. Hearty thanks were given to him for all his labours in connexion with the Congress, which owes its success mainly to him, and also to Canon Bazeley, who accompanied all the excursions, and gave us the benefit of his intimate knowledge of the antiquities of the shire, and to the Hon. Secretary, Mr. Austin, who, with much tact, energy, and skill, so ably carried out the arrangements.

The Association will retain many pleasant recollections of Gloucester and of the kindness and hospitality its members received, and we trust that somewhat less a period than sixty-six years will elapse before it again visits the city of the West.

P. H. D.

* A full description of this font and of other fonts in the county is given by Dr. Fryer in the "Memorials of Old Gloucestershire." (G. Allen & Co.)

OXY-ACETYLENE WELDING.

TUBAL CAIN would probably have been incredulous if some Mother Shipton of his time had prophesied the execution of welding without the aid of hammer or anvil. And in times nearer to our own the welding of cast-iron was quite outside the range of ordinary practice. But at a demonstration of Oxy-acetylene Welding and Cutting, held at the Northern Polytechnic on Friday last, under the auspices of the British Acetylene and Welding Association, the operation of welding by means of the oxy-acetylene blowpipe was performed upon mild steel, wrought-iron, brass and copper; and a large number of exhibits of work—much of it impossible of equally good execution by other methods—was submitted to an interested audience.

Among engineers this method of welding has become fairly familiar, but the supply of workmen capable of handling it is found to be quite inadequate.

A course of instruction has therefore been arranged at the Northern Polytechnic, and it is already found that the students are eagerly sought after by employers so soon as proficiency has been attained.

The process is not quite that which is ordinarily associated with the word "welding," which implies the joining of two pieces of metal by pressing or beating them into actual contact with one another at a suitable temperature. It is nearer akin to soldering or brazing, but with the vital difference that the metal inserted between the pieces to be joined is practically the same as the metal to be joined thus in welding wrought-iron, mild steel, brass or copper, rods of the same material are used. For cast-iron, ferro-silicon forms the filling.

For mild steel and wrought-iron no flux is required, but for cast-iron, cast-steel, copper, bronze, brass and aluminium it is necessary to use "welding powders to eliminate the metallic oxides formed when the metal is in a molten state." The composition of these fluxes varies. For example, borax is often used with brass, preferably in lump form, as its purity is then more to be relied upon. For cast-iron one of the fluxes used consists chiefly of manganese, chlorate of potash, and borax.

The danger of "burning" the metal, familiar to the blacksmith, is reduced in the oxy-acetylene method by a careful regulation of the proportions of the two gases forming the jet. There is no difficulty in this, as the admixture is, by means of a tap on the blowpipe, quite under the control of the workman, who can judge it by a glance at the flame. The proportions in practice are about two parts of oxygen to one of acetylene.

The relative strength of an oxy-acetylene weld in mild steel when compared with that of the original metal has been shown by tests to be from 87 to 92 per cent., in some cases even 95 per cent., results superior to those obtained from ordinary welding.

The mechanical preparations for the actual welding are simple. If, for instance, a flat plate is to be joined by its edge to a similar plate lying in the same plane, the edges of the two pieces are splayed down on each side to a rough knife edge, the splay being about equal to the thickness of the plate. The joint is then filled with the filling-in metal, the latter being used in a stick, like a stick of solder, and the general effect of the process being somewhat similar.

A weld in a piece of ordinary ¾-in. iron plate was roughly tested by gripping the plate in a vice and bending it by hammering. When bent parallel to the weld it broke through the untouched plate—the weld remaining intact. When broken at right angles to the weld it was the weld itself that offered the greatest resistance. In this case the superior quality of the inserted welding material made the joint easily the strongest part of the whole.

Welds have been made by this method in metal measuring 9 in. by 4½ in. in sectional area, and by it work such as boiler repairing *in situ* and many other operations in places difficult of access can be accomplished.

Another sphere of usefulness is found for the oxy-acetylene blowpipe in the cutting to pieces of such things as boilers and girders. A special jet, in effect the ordinary injector type of blowpipe, with an additional annular nozzle through which an extra supply of oxygen is delivered, is used for this purpose, and at Friday's demonstration Mr. William Kempson, the instructor, cut plate-iron 1½ in. thick at the rate of 1 in. run in ten to twelve seconds. This application of the process has been found useful in removing large boilers from the basements of buildings, in cases where bodily removal was impossible and the noise of hammer and chisel would have been intolerable.

MEMORIAL HOSPITAL, HAYWARD'S HEATH.

Messrs. Wheeler & Godman, of Horsham, are the architects for the King Edward Memorial Hospital, which was opened last week at Hayward's Heath by H.R.H. Princess Christian. The building consists of a central block with two projecting wings, and the wards are on the ground floor, the upper floor being devoted to the staff. The builder was Mr. Horace Finch, of Hayward's Heath.

THE ARCHITECTURAL ASSOCIATION:

WEEK-END VISIT TO LIVERPOOL, JULY 5-7.

MANY reasons combined to make an A.A. visit to Liverpool desirable. Strongest in attraction must be placed the new cathedral, such a building being sufficiently uncommon as alone to justify an excursion to rather more than ordinary distance; second, the many important commercial buildings of recent erection promised further interest; finally, the members of the Association have always entertained a friendly curiosity as to the doings of the Liverpool School of Architecture, and readily accepted the invitation extended to them by Professor Reilly to visit the School while in Liverpool. Additional attractions held in reserve were the fine examples of the scholarly work of the early XIXth century by Elmes and Cockerell.

Travelling from London on Friday evening, the first building visited was the Adelphi Hotel, where the party was located. Recent exhaustive descriptions which have appeared in the *Builder* make any further notes on Mr. Atkinson's fine scheme superfluous. When complete it will be the finest hotel on this side of the Atlantic. On Saturday morning the party was joined by members of the Irish Association, and under the conduct of various members of the Liverpool Architectural Society got to work early.

Risking subsequent anti-climax, the first building visited was St. George's Hall. It is late in the day to add anything to the enconiums which have been showered upon this magnificent building, while any criticism can only be levelled at the root conception of architecture which would produce it. Allowing its designer's aim and ideals to be right ones, of itself it is well-nigh perfect, but it is difficult to understand the attitude of mind which expresses surprise that it should have been produced by so young a man. One feels that under English conditions it must have been done by a man young in years and practice, or not at all; the fortunate thing is that with a spirit enthusiastic enough to form so large a conception was united a mind capable of working out such grand ideas with hardly a false note. The building is, of course, favoured by its position—it is one of the few great city buildings in England that it is possible to see as it should be seen. The value of the great open place, free from traffic, can hardly be over-estimated.

The interior of the great hall, though grand, hardly rises to the level of the exterior. The scale given by the granite columns is rather vitiated by the uneasy division of the structure behind them into three nearly equal parts by the gallery fronts and imposts. There is, moreover, an air of mid-Victorian taste about the finishings which conflicts with the large manner of the general conception. Despite Cockerell's great reputation and Elmes's expressed wish that he should complete the work, one feels that it could have been better done. The small concert hall, by the same hand, is much more successful, and the east vestibule is entirely charming. The vexed question of the threatened podium at the west end was, of course, debated, the concensus of opinion being that the wise course is to refrain from disturbing the present arrangement. After studying the exterior from all points a short visit was next paid to the Repertory Theatre, originally a music-hall, but converted by Professor Adshead with some amount of alteration, including the formation of a *foyer* out of an old beer cellar. An empty theatre by day is inclined to be dismal, and the party showed little disposition to linger, especially in view of the full programme ahead of them. With the next building—the Cotton Exchange, by Messrs. Matear & Simon—commenced a round of the important modern commercial buildings. A detailed description may be prefaced by a few general remarks. Those buildings which are of a public or semi-public character bear the stamp which distinguishes so much modern competition work all over the country—good planning combined with a rather strained cleverness in elevational treatment. Hasty design seems inseparable from modern commercialism, and posterity pays the penalty through many long years. There is probably no single building of the series visited which fully satisfies its authors, or which would not have been improved by a longer period of study. Each professedly adheres to the Renaissance—most to a pretty free rendering of it—yet it is where least renascent that the work is most successful. The Cotton Exchange is a fine building excellently laid out to serve its purpose. The screen front and portico facing west are boldly conceived and well carried out, though a few grammatical difficulties of the style have hardly been conquered; but the essentially rational and modern north front will probably prove of more enduring interest and value as a contribution to the progress of architectural style. The building was erected in 1906 for the Liverpool Cotton Association, Ltd., whose members orginally transacted their business on the Exchange Flags. The chief part of the new Exchange is occupied by the hall, 140 ft. by 128 ft., extending to the top of the building, and galleried on all four sides. The galleries are supported by polished monolithic columns of Royal Blue granite of the Doric Order, above which an upper tier of Ionic columns of similar material supports a bold ceiling cove and glazed roof. The corners of the rectangle are splayed internally, and give place for effectively-designed fireplaces. Other fine apartments are the Board room, panelled in English wainscot with a chimneypiece of Mazzano marble, and the members' reading-room, panelled in Italian walnut and having a plaster barrel ceiling. Business was in full swing, and considerable interest was taken in its conduct, which could be well observed from the gallery.

After leaving the Cotton Exchange the party reached next the Town Hall, built by Wood, of Bath, in 1748, but since extensively altered and remodelled, first by James Wyatt, and more recently by other hands. Its chief note of interest lies in the splendid suite of rooms on the first floor, which have largely preserved their original character. Contrasting sharply with these rooms is the Council chamber, the authorship of which was not disclosed. The entrance hall, decorated by Professor F. M. Simpson, is dignified in its general effect. The pendentives of the lofty dome which surmounts the staircase have been finely painted by Mr. Furse.

A rapid tour was next made of Castle-street and James-street, passing on the way several notable buildings. Parr's Bank, by Mr. Norman Shaw, with Messrs. Willink & Thicknesse, displays the hand of the master. Its daring colour scheme of granite, pavonazzo marble with bands of green cipollino, red terra-cotta dressings, and green slate roof "sounds doubtful with a dash of distrust in it," as Mr. Halsey Ricardo wrote when it was built, but the result is a fine and distinctive building. As an interior the circular banking hall, attained by a daring constructive expedient, is architecturally less successful, the dome ceiling seeming too low in pitch and the cornice unrelated. Nearly opposite is the Bank of England, Cockerell's finest design—bold, forcible yet restrained, conveying admirably that expression of reserve appropriate to a bank. Mr. Norman Shaw's hand is again visible in the White Star Offices, built in collaboration with Mr. J. Francis Doyle. The general scheme of this building is reminiscent of New Scotland-yard, the high granite base, banded brick and stone walling above, and the angle turrets are all present, and there are other points of resemblance. The small Ruabon bricks used do not give so good an effect as the sand-faced bricks of the London building, and their harshness rather mars a powerful and fine design.

The next group of buildings seen were those constructed on the site of the old St. George's Dock, purchased from the Mersey Dock and Harbour Board by the Corporation some years ago. A magnificent site was thus created, and it is a matter for great regret that uncontrolled development was allowed. Two buildings at present occupy the extremities of the site, the centre being vacant; but whatever is introduced between the effect must be discordant, though each, in its way, has considerable merit. The Dock Board offices have a splendid plan, its diagonal corridors converging on a central hall surmounted by a lofty dome, and, with galleries at each floor level, allows the full extent of the building to be grasped in a way unusual in a purely office block. The architects, Messrs. Briggs, Wolstenholme, F. B. Hobbs, and Arnold Thornely, are to be congratulated on having produced a stately design, but its period of domination has been terminated by the recent erection of the Royal Liver Building, on so vast a scale that for the present it dwarfs the city. This gigantic building—ten stories high in the main block with lofty towers at either end—was designed by Mr. Aubrey Thomas, who has handled the problem in a manner both strange and striking, but coming astonishingly near to brilliant success. Structurally, the building is interesting as an example of skeleton construction in reinforced concrete faced with dressed granite. The equipment is also extremely modern and complete.

On their way back to their hotel the party visited the fine Royal Insurance building in Dale-street, but were unfortunate in missing Mr. Francis Doyle owing to loss of time in fulfilling their extensive programme. They were, however, able to inspect the interior of the building, which contains a Board room certainly not inferior to any room in Liverpool. The exterior of the offices is a strong design, free from fuss or confusion, and satisfactory in all respects save the widely-spaced order unnecessarily introduced on the second and third stories.

The early part of the afternoon was devoted to the cathedral; Mr. Gilbert Scott kindly attended and explained the intention of his design. It is not too much to say that the first disclosure of this at the time of the competition produced among architects a real sensation, as much by its bold and unforced originality as by its skilful seizure of the opportunities of the site. It has undergone many changes since, and doubts have been expressed whether all are improvements, but the first completed portion of the work is an excellent augury for the ultimate success of the whole, and inspires great confidence in Mr. Scott's ability to achieve it. In the interior of the Lady Chapel the organic constructive scheme, fine proportion, carefully regulated lighting, well-designed glass, good texture of carving, stonework, and oak combine in an effect which is at once vital and devotional. The lines lead the eye eastward and upward. Externally, too, the delicacy of this chapel serves as a foil and gives scale to the great mass of the choir. Good progress is being made with this, the high vault being in course of construction. Westward a great deal remains to be done, the big central area obtained by the sacrifice of the transeptal towers having been for the present deferred. One is disposed to regret these towers, which showed so finely on the drawings and model, but Mr. Scott knows quite well what he is about. A number of drawings were on view, and no effort was spared to make the visit thoroughly enjoyable. After the cathedral the recent additions to the School of Art, by Messrs. Willink & Thicknesse, were visited, the architects kindly attending. The new work is refined in character, architectural features having intentionally and wisely been suppressed or reduced to their simplest form to enhance the appearance of the casts and models housed. The sculpture court, with simple arcaded galleries, is particularly successful, bearing in mind its purpose. From here the party proceeded to the Students' Union, by Professor Reilly. The completed portion is full of character and pleasing in colour. This is due to the brickwork of the upper portion of the front, where Professor Reilly has used thin bricks wire-cut on the face instead of on bed, as commonly done in America. The effect is entirely to alter the colour and texture of the clay, which in the local common brick is apt to be unpleasant. The stone detail of the lower portion of the front is hardly so successful as the work above, an imperfect realisation of scale being apparently responsible for its crowded effect. The two chief rooms, which extend the full length of the front on the ground and first floors, are quiet and suitable. Professor Reilly, who had been with the party throughout, next accompanied them to the School of Architecture, now occupying the old Bluecoat School, saved and presented for the purpose by Sir W. H. Lever. Tea was here partaken of by kind invitation, and an exhibition of students' work, which was fortunately on show, was examined with great interest. A.A. members have their own views as to architectural education. Some excellently rendered elevations were to be seen, and the designs generally, albeit in rather a narrow groove, were creditable to both authors and instructors. Subjects of a monumental character—architectural scene-painting, if one may so call it without offence—were the order of the day, and the results in this sphere were much superior to the comparatively few essays in everyday design. It would have been

interesting to see plans more frequently, and very few adequate perspective drawings were shown; but the exhibition, taken altogether, is an imposing one. In the evening the party was entertained at supper at University Club by the hospitality of the Liverpool Architectural Society.

On Sunday morning little definite sightseeing was attempted, but many members visited Messrs. Austin & Paley's grand church at Mossley Hill; St. Agnes, a characteristic work of the late J. L. Pearson; and St. Clare, in which Mr. Leonard Stokes in an inexpensive church achieved one of his finest exteriors and showed the native architects how their common brick should be used effectively. The party returned to town in the afternoon after a most successful week-end. To the members of the Liverpool Architectural Society and Professor Reilly is due the gratitude of the members for liberal hospitality and help.

ARCHITECTURAL SOCIETIES.

Bristol Society of Architects.

The annual excursion of the Bristol Society of Architects took place recently to Malmesbury, Cirencester, and neighbourhood. The party comprised Mr. J. Foster Wood, F.R.I.B.A. (President), Mr. G. H. Oatley, F.R.I.B.A. (President-elect), Messrs. Mowbray A. Green, F.R.I.B.A., G. C. Awdry, F.R.I.B.A., Austin B. Botterill, A.R.I.B.A. (Hon. Treasurer), B. F. G. Wakefield, Lic.R.I.B.A., A. R. Gough, A.R.I.B.A., C. H. White, A.R.I.B.A., H. J. Cavell, T. H. Skinner, C. G. Skinner, R. A. Duncan, W. H. Price, the Rev. R. C. Cole, M.A., and Mr. John Fisher (guests), and Mr. C. F. W. Dening, Lic.R.I.B.A. (Hon. Secretary). Leaving Bristol by car, the first stop was at Cold Ashton, where, by permission of Mr. A. T. Crew, the Manor House was viewed. At Malmesbury the members were received at the Abbey by the Rev. Charles D. H. McMillan, M.A., and under the guidance of Mr. Harold Brakspear, F.S.A., A.R.I.B.A., the building and the Abbey House were inspected. Continuing the journey to Cirencester the party lunched at the King's Head Hotel. At the conclusion the President, Mr. J. Foster Wood, referred to the honour recently bestowed by his Majesty King George V. upon a member of the society, and a letter of congratulation and expressive of the valuable services rendered to and the interest taken in the society during many years, formerly as President and later as member of the Council, was signed by the members present and dispatched to Sir Frank W. Wills.

The party then adjourned to view the parish church, where they were received by the Vicar, the Rev. W. A. Robins, M.A., and under the guidance of Mr. E. C. Sewell (local Hon. Secretary of the Bristol and Gloucestershire Archæological Society) this interesting building was inspected. By permission of Captain J. Gordon Dugdale, D.S.O., the members walked through the Abbey grounds to inspect the Roman capital and ancient gateway, the only remains of the Abbey. Thence by St. John's (The Pæn) Hospital and St. Thomas's Hospital to the Corinium Museum of Roman Antiquities. Mr. Sewell, who accompanied the members, read some notes and gave some valuable information.

Unfortunately the weather was somewhat inclement when a start was made for Minchinhampton, where a stop was made to see the church, and the Rev. J. F. O. Lewis read some notes on the building, the principal feature of interest being the south transept with its stone roof. From Minchinhampton the route was through Nailsworth to Uley. The intention was to have visited the Tumulus and walk to the great camp at Uley Bury, but as the weather would not permit of this being accomplished the journey was continued to Owlpen Old Manor. The delightful old house and grounds and the church—recently restored by Mrs. Trent-Stoughton—were inspected.

Nottingham Architectural Society.

The members were favoured with fine weather for their visit to Cheshire on Thursday last. The party of twenty-four members and friends included the President, Mr. E. R. Sutton; the Vice-President, Mr. H. Gill; Messrs. W. V. Betts, R. Evans, F. W. Gregory, W. R. Gleave, E. H. and A. E. Heazell, Arthur Marshall, W. Pare, A. W. Shelton, and the Hon. Secretary, F. M. Royle.

Moreton Old Hall was the first place visited. This is one of the finest remaining half-timbered manor-houses of the Tudor period. Situated in the midst of verdant meadows, with its projecting upper stories, gabled roofs, and ivy-clad chimneys, it is the delight of artists from all over the world. The interior, with its carved oak beams, panelled ceilings, walls, and massive carved fireplaces, is no less interesting, and the old furniture in the rooms is most carefully preserved. This old mansion is greatly prized and cared for by the present caretaker, Mrs. Dale, one of whose ancestors was the "Rycharde Dale carpeder," whose name is recorded on one of the bay windows. Miss Moreton, the last of the Moreton family, died recently at the age of ninety-two, and the property now passes to Bishop Abraham, of Derby.

Astbury Church was then inspected. The earliest portion of this dates back to the XIIIth century. Among many interesting features is a priest's chamber over the south porch, with a small stone window looking from it into the church. The altar-rail, font cover, rood-screen, and pew doors are fine examples of Jacobean carved oak work. Astbury was originally the parish church of Congleton, and a pew is still reserved for the Mayor and Corporation of this latter town.

Lunch was taken at the Lion and Swan Hotel at Congleton, which dates back to the XVIth century and is filled with a unique collection of antique furniture, pottery, pewter, and brasswork collected by the present proprietor.

The church at Marton was the next call. This is a pretty half-timbered church and tower dating from the XIVth century. Through the courtesy of the Vicar, the earliest register on vellum, dating from 1558, was on view.

Siddington Church was also visited. This is a similar example of black-and-white construction, of which the chancel, porch, and roof of the nave are the original XVth-century work.

The last church inspected was Gawsworth, a stone building containing many beautiful alabaster monuments of the Fytton family. A long stretch of water in front covered with water-lilies and a delightful old half-timbered rectory facing the church make the situation an ideal one. Although the distance covered was nearly 50 miles, the motor-cars brought the party back to Stoke in time for dinner.

ARCHÆOLOGICAL SOCIETIES.

Surrey Archæological Society.

The annual excursion of this Society for the current year is announced to take place on Thursday, July 18, and the places to be visited are Chertsey, Thorpe, and Egham. Londoners will start from Waterloo terminus at 10.25 a.m. and arrive at Chertsey at 11.54. Chertsey Church will be first visited and described by Mr. P. M. Johnston, F.S.A., architect. The members will then proceed to view the remains of the Abbey Mill and the fishponds of the Abbey, which will be inspected by the kind permission of the owner of the site, and will be described by Mr. H. E. Malden, M.A. Thorpe Church will be next visited, and described by Mr. P. M. Johnston. A short visit will then be made to Thorpe Manor House, the carriages then leaving Thorpe for Great Fosters. There the great Tudor house, one of the finest in this part of England, will be inspected by the kind permission of the Right Hon. Lord Dudley. An historical account will be given by Mr. F. Turner, and notes upon the architecture by Mr. Ralph Nevill, F.S.A., architect. Carriages will leave here for Milton Park, Egham, the residence of the Baron De Worms, F.S.A., by whose kindness the party will be permitted to inspect some curious stone doorways in the garden. To those of our readers who contemplate attending this excursion we would mention that an excellent paper by the late Major Heales, F.S.A., will be found on "Chertsey Tiles," with illustrations, published in the seventh volume of this Society's *Transactions*.

CHURCH HALL, FINCHLEY.

The estimated cost of the erection of Holy Trinity Parish Hall is 3,300*l.*, and plans for the building have been prepared by Mr. J. C. Stockdale, Lic.R.I.B.A., architect, of Bloomsbury, W.C.

GENERAL NEWS.

The University of Liverpool.

The following awards are announced in the School of Architecture:—Degree of B.Arch., Second Exam.: S. H. Lakshminarasappa, A. R. Sykes. Certificate in Architecture, First Class (exempting from the Intermediate Examination of the Royal Institute of British Architects): R. F. Dodd, S. A. Harper, S. S. Jones, S. H. Lakshminarasappa, A. R. Sykes, W. H. Thompson. Second Class: S. Faraday, G. N. Hill, S. P. Mehta, J. W. Rutledge. The following scholarships have also been awarded: The Holt Travelling Scholarship, W. H. Thompson; the Ravenhead Entrance Scholarship, F. Jenkins.

The R.I.B.A. Board of Architectural Education.

The Board of Architectural Education of the Royal Institute of British Architects announce that the designs submitted by the following students, who are qualifying for the Final Examination, have been approved:—

Subject III. (a)—Messrs. R. A. Barber, E. F. Bothwell, H. C. Bradshaw, R. S. Dixon, H. A. Dod, E. Gee, and T. C. Lawrence.

Subject III. (b)—Messrs. H. Lidbetter, E. Prestwich, W. H. Thompson, R. A. Walter, and W. E. Woodin.

The Federal Capital of Australia.

For some time a large gang of workmen have been engaged on the site of the future Australian Federal Capital City at Canberra, in making the necessary roads. These are now in thorough order for the commencement of work on the city itself. Surveys for various purposes are proceeding. One party is engaged on the location of a railway line from Canberra to Jervis Bay, where the Royal Australian Naval College will be established. Other parties are engaged on the determination of the boundaries of holdings and on surveys connected with such engineering propositions as road deviations and tramways. A staff of draughtsmen is compiling plans as a result of the surveys. The Minister for Home Affairs stated recently that probably ten years would pass before the Federal Parliament would be sitting in the city. The Federal territory is watered by four rivers, the supply from which will be kept separate and used for such different purposes as drinking supply, ornamental waters, and utility services.

Office of Works Contracts.

Mr. Pointer asked in the House of Commons recently what steps are taken by the Office of Works to secure that all work done by contractors, especially work that cannot be easily examined when a job is completed, has been properly and efficiently executed according to the contract.

Mr. Benn replied that clerks of works are appointed to see that all work is properly and efficiently executed, while, in addition, a building inspector pays surprise visits while the work is in progress. The architects in charge exercise general supervision over all building works. The Board's contracts provide that builders shall give notice to the architect or clerk of works when it is their intention to cover up any portion of the work, and if any work is so covered up or hidden without written authority the builders may be required to uncover the same at their own expense.

Plans for Workmen's Houses.

Sir Arthur Markham asked the representative in the House of Commons of the First Commissioner of Works whether, seeing that under the Housing of the Working Classes Act, 1890, plans of dwelling-houses have to be approved by his department before a loan is sanctioned, he will say why his department require four complete sets of drawings of every general plan, four sets of plans of the houses and the elevations of the said houses, and four sets of drainage plans, water plans, etc.; whether he is aware that city councils and other public bodies charged with the same business only require one complete set of plans; whether a complete set of plans in duplicate would be sufficient for the purpose of his department; will he say what is done with all the numerous plans, and if the designs are treated as confidential within the department.

Mr. Wedgwood Benn, in reply, says he understands that two sets of plans are asked for by

the Public Works Loan Board. Only one set is forwarded to the Office of Works. The designs are treated as confidential within the department.

Doncaster Housing Scheme.

In answer to a question by Mr. Jowett, Mr. John Burns states that the Doncaster Corporation has submitted an amended housing scheme for Doncaster, which includes the provision of thirty-six separate dwellings in eighteen houses, being two separate dwellings to each house, with a view to the same being let at from 2s. 6d. to 4s. a week. He has approved the principle of erecting these dwellings, but has returned the plans to the Corporation for amendment in certain respects.

Town-Planning Scheme, Walthamstow.

The Walthamstow Urban Council have applied to the Local Government Board for permission to frame a scheme relating to an area of 1,534 acres lying for the most part on the north side of Forest-road; it is proposed to devote, as an open space in connexion with the scheme, about 100 acres of "lammas lands" upon the banks of the Lea. At present 1,600 acres within the Council's jurisdiction are built over, and provide house room for a population of 125,000.

The George Petrie Memorial, Dublin.

A meeting of the General Committee of the George Petrie Memorial was recently held at the rooms of the Royal Society of Antiquaries, Stephen's Green, Dublin, G. N. Count Plunkett, K.C.H.S., in the chair. It was decided to arrange for a popular lecture, illustrated by lantern views, descriptive of the life and works of Dr. Petrie, and detailing his great services to Irish Archæology, in particular in laying the foundations of our present knowledge of early Irish Architecture, to be held during the coming autumn. The Right Hon. M. F. Cox consented to deliver the lecture. It was decided to widen the scope of the project so as to include the erection of a bust and suitable inscription or other worthy monument in some public place, in addition to the erection of a monument over the grave. The following were appointed an Executive Committee to deal with matters of details:—G. N. Count Plunkett, K.C.H.S.; Sir Gabriel Stokes, K.C.S.I.; F. Elrington Ball, Litt.D.; Dermod O'Brien, P.R.H.A.; R. M. Butler, F.R.I.B.A.; Robert Cochrane, LL.D., F.R.I.B.A.; the Right Hon. M. F. Cox, M.A.; Edwin Lloyd, P. J. Lynch, M.R.I.A.; S. W. Maddock, Frank Stokes, and P. J. O'Reilly, F.R.S.A.I.

Institution of Municipal and County Engineers.

The orphan fund of this Institution mention in their annual Report that, although no improvement in the subscriptions could be shown during the past year, no serious diminution had occurred, the amount subscribed being 128*l.* 5s., as against 144*l.* 1s. 9d. in 1910, while the number of subscribers had been three less. The grants made from this fund have rendered assistance to six widows of late members of the Institution towards the schooling and maintenance of their children.

Kingston Vale.

We regret to see from the report of the Executive Committee of the Wimbledon and Putney Commons Extension Fund that much has yet to be accomplished before their efforts can be finally crowned with success and Kingston Vale be considered safe from the hands of the spoiler. It seems rather extraordinary that London as a whole does not seem to realise its responsibility in this matter. The City Corporation has made no grant. The Surrey County Council has negatived the proposal of its General Purposes Committee to subscribe 5,000*l.*, and even the Borough of Wandsworth, which is so immediately concerned, has acted in the same way. On the other hand, the Urban District Council of the Maldens and Coombe has voted 3,500*l.*, and the District Council of Merton 500*l.*, all of which it is to be hoped the Local Government Board will sanction in due course, while the Borough of Wimbledon first voted 10,000*l.*, and then determined to postpone its application to the Local Government Board for six months, during which time the options on the land will expire. The proposal of the London Traffic Branch of the Board of Trade to create a main road, starting from Robin Hood Gate and running thence to Malden by way of the valley of the Beverley Brook, introduces a new factor into the problem, which will probably have some influence over the future development of the district. Although the proposals of the Extension Fund Committee are less ambitious, the ultimate achievement to be striven for is the preservation of the rural character of the whole of the Kingston Vale district, and this is a matter which seems to be of vital importance to the future of London.

"Bungalows and Country Residences."

An interesting event took place on Tuesday evening last, when Mr. R. A. Briggs entertained at dinner Mr. Herbert Batsford, Mr. Harry Batsford, Mr. Harry Browning (Mr. Briggs' partner), and several of the oldest members of Mr. Batsford's staff, to celebrate the twenty-first anniversary of the publication of his "Bungalows and Country Residences."

BOOKS.

Modern Practical Design. By G. WOOLLISCROFT RHEAD. (London: Batsford. 1912. 7s. 6d. net.)

THIS book differs from the author's former work on "Principles of Design" in the following particulars:—(1) The last-named is confined to the elucidation of principles, while "Modern Practical Design" deals with the technique, tools, and practical methods relating both to design and craftsmanship; (2) the illustrations of the present book are, with one or two exceptions, representative examples of the work of modern craftsmen, instead of being, as in the "Principles," drawn chiefly from the art of the past. Design here is taken to mean the forms of "applied art" covered by the syllabuses of the Board of Education in elementary, advanced, and honours design. The book should, therefore, appeal to teachers, students, and craft-workers generally in its capacity as a practical guide to the preparation of designs for the various branches of art industry. The author is to be credited with considerable experience as a teacher, and we believe he has actually practised with conspicuous success many of the subjects dealt with. There are chapters on patterns for paper and fabrics, book-decoration in all its branches, pottery, stained-glass, metalwork and woodwork, dress embroidery, fans, lace, and posters—on all those phases of artistic activity, that is to say, which are included in the term "applied art." The whole is prefaced by a chapter on plant form as the basis of ornament, in the true South Kensington manner. There are 160 illustrations of considerable interest. But, as the author remarks in his introduction, "it will be obvious that in a work aiming at covering such a wide area little more than the mere fringe of the different subjects can be touched; it will be necessary for students to supplement their reading by reference to the monographs published on the different crafts which (the monographs, we take it) are well-known." That is just the trouble. Anyone wanting to know the sort of knowledge proffered would go to the more comprehensive work on the subject of his choice; whereas for anyone just vaguely and generally interested this book is probably not sufficiently illuminating.

In the sphere of decorative and applied art there is as good work being done to-day, with certain reservations, as was ever done in the past, and the standard of design, no less than the skill of the craftsman, is continually advancing. The book should prove stimulating to the student, and it cannot fail to interest all concerned with the decorative arts, though it may not be sufficiently exhaustive in the way it deals with any one craft to stand all the tests to which some of Mr. Rhead's *confrères* are sure to subject it.

The Great State. Essays on Construction by H. G. WELLS, CECIL CHESTERTON, ROGER FRY, and others, under the general editorship of H. G. WELLS. (Messrs. Harper & Brothers. 1912. 6s.)

MR. ROGER FRY is one among the several contributors of essays, to which Mr. Wells has added an Introduction and edited, under the title of "The Great State." These essays represent the hopes of science, of art, agriculture, the Church, the politician, and the intimate social relationships under reorganised social conditions. These conditions are only suggested. "Our conception of the Great State . . . . is still altogether unsubstantial," Mr. Wells explains. We gather, however, that the basis is industrial and strenuous. We are not invited to cakes and ale, amid the perfume of hay and hedges that mark the millennium of William Morris. The days of such Utopian romance Mr. Wells declares to have passed. Robert Louis Stevenson defined romance as the "Poetry of Circumstance." In this sense Mr. Wells and his colleagues are eminently prose writers.

Those who speak of the part to be played by the science of the future have an especial advantage. The man of science can advance with comparative sureness. His premises remain unchanged whatever social gyrations may occur. The article by Mr. C. J. Bond on "Health and Healing in the Great State" is a satisfactory example. The premises of the artist are, at best, but an expression of his hopes and his fears for art. Mr. Fry commences with a survey of the artist's position. His earlier and aristocratic patron was not unsympathetic, if ignorant. The later plutocrat was both. "But both alike desire to buy something which is incommensurate with money. Both want art to be a background to their radiant self-consciousness. They want to buy beauty as they buy love, and the painter, picture-dealer, and the pander try perennially to persuade them that it is possible." At the present moment neither will buy anything without the "patine" of age; whether genuine or put on in Paris. Meanwhile, the artist starves. Are there conceivable conditions under which the artist will fare better? We gather that Mr. Fry thinks not. He seems to see the painter and the sculptor drawn into the ranks of artisan and craftsman, where they may assist in raising the level of trade design and earn a living thereat. He would put the painter on the same basis as the poet. The latter makes no pretence of living on his poetry, but in exceptional instances.

We do not see, however, why a changed social basis is necessary to effect this. Many men of ability already design for the trades. The horrible patterns and detail which Mr. Fry describes as surrounding him in the refreshment-room of a railway-station as he writes is conceivably due to the fact that there are not enough of these men possessing the requisite technical knowledge to go round. He also hopes that something might be the outcome from a resuscitation of the Mediæval Guild. It might be so. Yet we have to admit that the very same forces that broke up the Guilds are as active to-day as formerly. "Nevertheless, in the long run," he concludes, "mankind will not allow this function which is necessary to his spiritual life to lapse entirely." There is something of despair in this. And when we read in another essay, "A portrait-painter or a poet who gave his whole time to painting or poesy would be a poor stunted creature and his art a poor art," one may wonder whether the conditions of art will be better understood then than now. "If you will read aloud well, then do it constantly; if you will write, then write," said a wise Greek. "But when you have not read aloud for thirty days together, but done something else, you shall see the result."

Somehow or other, despite the vulgarising influence of the aristocrat and the plutocrat, a certain amount of good art was produced. Are we prohibited from welcoming a possible return to these conditions? The American is the principal buyer to-day, not alone because he has the money to spend, but also because he has a house in which to place his purchase. The restlessness of the age, stimulated by the motor-car, the willingness to accept the limitations of a flat in exchange for a life freed from domestic responsibilities, have reduced home-life in this country to a very low ebb. Household gods are an incubus. Society is playing at this sort of life at the moment like a child with a new toy. It may again desire home comforts and pictures as furniture to the walls. The State, it is true, will be no greater than before. But the artist will ply his trade, live, and be happy.

Modern Cottage Architecture. Illustrated from the works of well-known architects. Selected and described by MAURICE B. ADAMS, F.R.I.B.A. Second Edition, revised and enlarged. (Batsford. 1912. 10s. net.)

A NEW edition of this useful book will be welcomed by the ever-increasing number of the

general public who are desirous of erecting small dwellings. "Cottage" architecture is a wide-embracing term; it is not always easy to draw a distinction between a cottage and an unpretentious dwelling-house, and so we find all manner of types represented in this book, not only as regrads external appearance, but as affecting the more intimate relation of plan arrangement and the uses and accommodation needed. Thus the ordinary cottage, such as one builds for the bailiff, the head gardener, or the coachman on a large estate, is illustrated equally with the doctor's cottage and the cottage home; but it is not quite clear by what order of reasoning a cottage hospital, lodges, and entrance gates are pressed into service.

A perusal of these pages, with their fifty-four illustrations in the text and eighty-three full-page plates, reveals a wide range of design and a variety of plans, each an object-lesson in itself. This is not a mere collection of designs and sketches gathered together haphazard without regard to purpose, accommodation, or cost, but the book consists of a carefully-selected series of views and plans of buildings which have for the most part been erected, and which without exception are the work of men of distinction in the sphere of domestic building. The choice of subjects has been made from many country districts with a view to illustrating the influence upon design of local materials and local characteristics.

In the letterpress the conditions of modern cottage building are discussed, and many useful hints are given with practical details of planning and fittings which should be useful alike to architects and clients. So many parts of the country have been disfigured by the erection of ugly cottages, ill-suited to their purpose and out of harmony with their surroundings, that the importance of good architecture, even in the humblest dwelling, cannot be insisted upon too strongly. Generally speaking, it costs no more to build something which it is a pleasure to behold than to perpetrate an abortion; while it often happens that a well-thought-out scheme without a scrap of ornament is less costly than the sort of thing we are all too familiar with on our country road-sides. But nature does not grow cottages; and man does not build beautifully in these days unless by study he has obtained a certain mastery which once came to him intuitively. That the right men do now and again have the opportunity to build cottages is evident from the examples illustrated in this work, and if it does nothing more than encourage such a tendency on the part of the building public it will have served its purpose well.

A Historical Guide to Ewelme Church and the Adjacent Buildings. By JOSEPH ARTHUR DODD, M.A., Corpus Christi College, Oxford, Rector of Ewelme.

A GUIDE to a church, even an historical guide dealing principally with people and what they did, is of little use without a plan of the building, and particularly so if the description of the arrangements of the fabric is confusing and loosely worded, as unfortunately is the case in this booklet. Mention is made, for example, of St. John's Chapel, but one has no idea from the letterpress whether it is the eastern portion of the south aisle of the nave, as it very well might be, or a south chapel attached to the chancel. As a matter of fact, it is the latter, and the photograph of the Duchess of Suffolk's tomb helps one to realise this.

An attempt to describe the plan of the church is made on one of the pages, but it is incomplete and ends in failure. In reading it one wonders if the church, as at present, is only the nave and aisles remaining from a larger structure which has lost its chancel. No such portion of the building is hinted at till one finds mention later on of "one of the arches in the south wall of the chancel," and a little further that "there is no chancel arch, but the beams in the roof are doubled above the entrance to the chancel."

From these and other such statements, and from the photographic view of the church given as frontispiece, it is evident that a plan rightly delineated by different hatchings on the walls for different dates of building would have been immeasurably more valuable as an historical guide to the fabric than these pages of description.

Like most other parish churches, this one was rebuilt and extended in portions at a time, being in use continually. De la Pole did not completely remov the former church and start his work on an absolutely clear site. The peculiarity of, at present, having no chancel arch is thus explained, as is also the oblong plan of the tower, and the different lengths of the aisles and other features. One can trace not only XVth-century work, but XIVth and even XIIIth century extensions of the original XIIth-century structure, the influence of the plan of which is still felt in the building. Such a plan, however, would require to be made by an expert, and the parts carefully dated from the building.

Apart from the radical fault of attempting a guide to a church without a proper plan, there is much extremely interesting information in the booklet, and the Rector shows commendable zeal in that, being only appointed in 1911, he should have gathered together so many facts. The book, however, is badly constructed. A description of the Manor and village of Ewelme is placed at the end instead of at the beginning, with the result that the reader is plunged at the commencement into the company of De la Poles, Chaucers, and "Duke John and Elizabeth his wife" with no clear idea of who they were or of their connexion with Ewelme.

It is evident from the booklet that the admirable group of mediæval buildings—church, almshouse, grammar school, and other old houses and ancient remains in the village, are worthy of a very careful monograph. The present booklet conveys no clear idea of the historical architectural character of the buildings, though the notes upon the important personages connected with Ewelme must add a human touch for one actually at the village.

The connexion between Wingfield, in Suffolk, and Ewelme, in Oxfordshire, arising from the marriage of William de la Pole with Alice Chaucer, the daughter of Sir Thomas Chaucer, Lord of the village and patron of the church, is interesting as an explanation of the presence of the well-known font cover and other features at Ewelme.

BOOK RECEIVED.

MILITARY ARCHITECTURE IN ENGLAND DURING THE MIDDLE AGES. By A. Hamilton Thompson, M.A., F.S.A. (London: Henry Frowde. 7s. 6d. net.)

CORRESPONDENCE.

The Proposed New City Street.

SIR,—I note that in the current issue of your paper you publish a report of Mr. Arthur Crow's speech at the last meeting of the London Society, in which he advocates the formation of a new street from Newgate-street, past the back of the Guildhall, to the junction of London-wall with Moorgate-street.

This proposal seems to me to be eminently practicable, and, if carried out, it would constitute the most important London traffic improvement of our time. The annexed outline diagram, prepared from a plan kindly sent me by Mr. Crow, shows at a glance the importance of the scheme. Improvements in the nature of widenings of streets ultimately leading to the Bank, however valuable in themselves, tend merely to increase the congestion at this point. Whereas, if the street proposed by Mr. Crow were constructed, it would take the whole of the Oxford-street to Liverpool-street traffic, and in addition to effecting a saving of about a quarter of a mile in the journey to Liverpool-street as compared with the ordinary route *viâ* Moorgate-street, it would reduce the present traffic at the Bank by about one-third.

Owing to the intended demolition of the old Post-office buildings and the proposed erection of new buildings on the site the question of the suggested new street demands immediate attention. If new buildings are erected on the whole of the site the present opportunity will be lost, and the ultimate realisation of the scheme will be much imperilled. An attempt is therefore being made to arrange a conference of the authorities concerned, and measures are being taken to interest the general public in the proposal. The support of the architectural profession may surely be relied on, and if members of the profession would take the trouble to bring the matter before the attention of those of their acquaintances who are members of London public bodies valuable aid will be rendered.

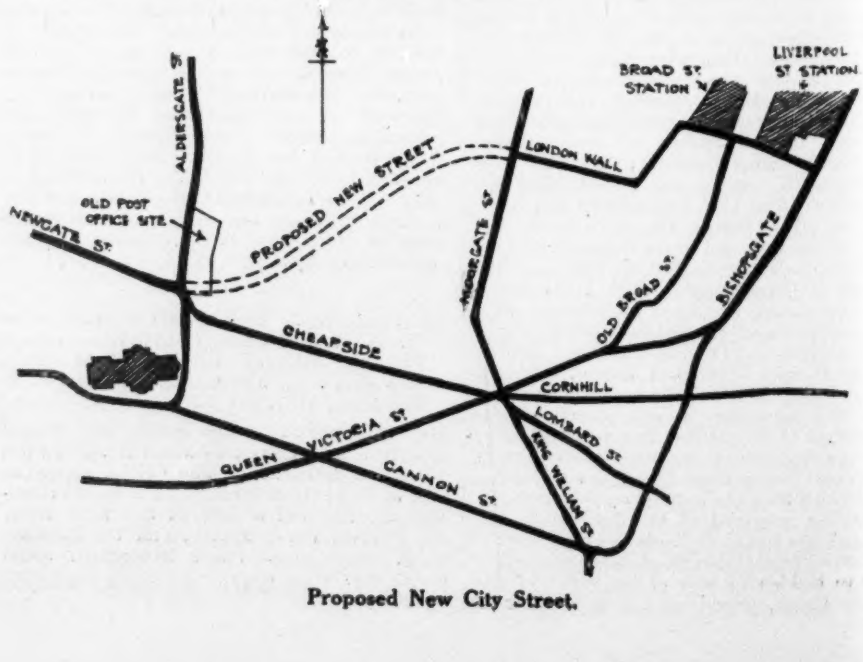
The scheme is admittedly a bold one. It would in all probability require, for financial reasons, to be carried out piecemeal. But if any person doubts the need of some drastic measure of street construction and traffic re-organisation in the City let him take a journey by omnibus from Liverpool-street to St. Paul's at about 11 a.m. on any weekday.

HORACE CUBITT, A.R.I.B.A.

The Architect as Arbitrator.

SIR,—In your issue of the 28th ult. you published an article upon the "Architect as Arbitrator," and conclude with the "moral" that "the architect should be extremely careful about the way in which he expresses himself when *writing to either party about the question of certificates*" (italics mine). Surely undesirable advice to offer members of a distinguished and honourable profession. I venture to think you would have done better to have taken higher ground, and to have reminded architects of the duty of at least trying to act up to the standard which they assume and endeavouring to deal impartially and justly as between client and contractor. It is obvious to any student of human nature, however, that the architect as arbitrator is in an impossible position. He cannot, any more than the veriest jerry-builder, afford to quarrel with his bread-and-butter, as the case of Roberts *v.* Hickman abundantly proves. X.

[**** Your correspondent "X." appears to imagine that it was my object to preach a sermon to the architects, using Roberts *v.* Hickman as a text. That was far from my purpose. I merely desired to use that case as an illustration of the fact which "X." admits, "that the architect as arbitrator is an impossible position," and to point out that what might appear to many an architect to be a perfectly innocent communication to the building owner may be otherwise interpreted in a court of justice.—THE WRITER OF THE ARTICLE.]



Proposed New City Street.

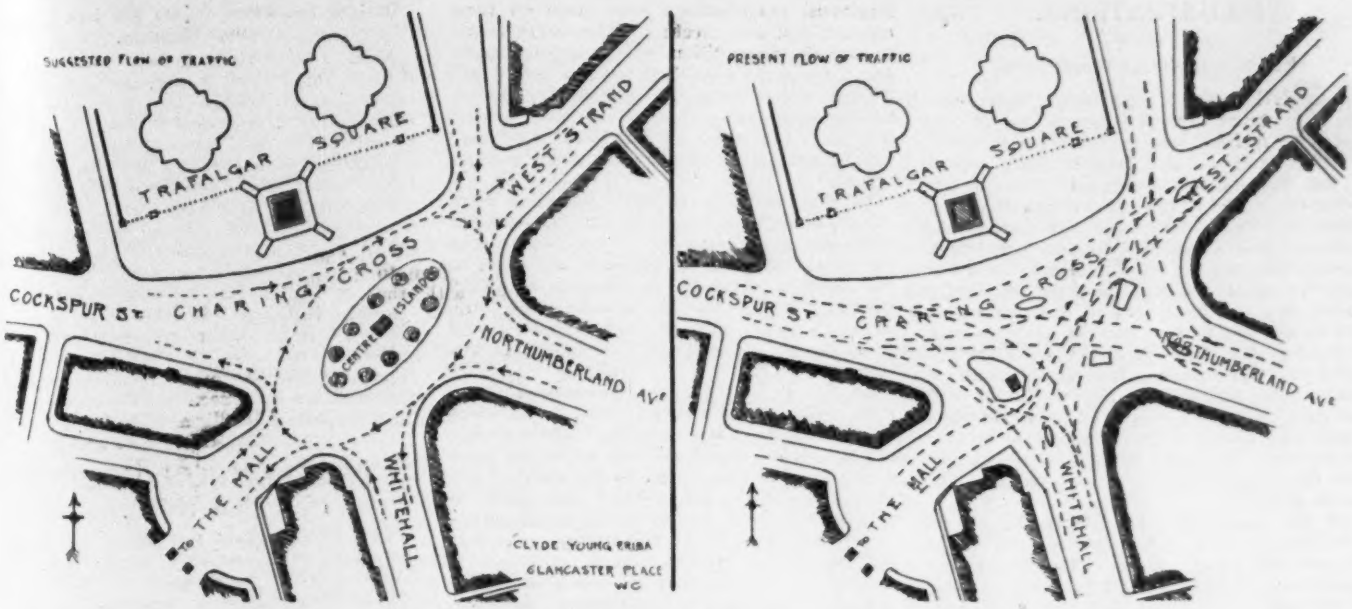


Fig. 1. **London Street Dangers: Mr. Clyde Young's Suggestion.** Fig. 2.

London Street Dangers.

SIR,—The recent articles in the daily Press concerning the increasing dangers of the London streets affords subject for thought. The sketch (Fig. 1) shows the suggested treatment of Charing Cross, and would, I believe, considerably facilitate the movement of traffic and greatly reduce the danger to pedestrians, as they would only have to guard against the traffic proceeding in one direction instead of negotiating eight streams as at present (Fig. 2). The idea of the scheme is to make the traffic rotate clockwise round a central island until it comes to the route along which it wishes to proceed, thus providing a stream continually flowing from left to right, and so avoiding the streams of traffic crossing each other. To form this island, plant it with trees, and move King Charles statue would not be a costly matter, and would not interfere with any scheme for remodelling Charing Cross when the time comes.

To carry the suggestion a step further would be to treat Trafalgar-square itself as a centre island and make traffic rotate *vid* Charing Cross, Cockspur-street, Pall Mall East, north side Trafalgar-square, Duncannon-street, and West Strand, which would still further lessen the congestion, as the crossing at the bottom of Haymarket, Cockspur-street, and Pall Mall East would be avoided. CLYDE YOUNG.

[**** An article on this subject appears on p. 57.—ED.]

The R.I.B.A. and the National Insurance Act.

SIR,—In accordance with well-established tradition our profession is again rudely awakened by the knowledge that our personal interests are involved in a matter of which far-away rumours were brought to our notice but whose force we failed to discern. Our placidity is now ruffled by the near approach of July 15, the date of the coming into force of the National Insurance Act.

One would have thought that the piercing shriek for unity would have taken form and solidity on any ground, however disdained and apparently mean, that presented itself as a possible centre for further growth and extension.

An opportunity is now available in the National Insurance Act, and nothing, to my knowledge, has been done.

I cannot imagine that it would prove undignified or impracticable for the Royal Institute to form an approved society under the conditions laid down in the Act, with the co-operation of the Institution of Civil Engineers, the Surveyors' Institution, and the Society of Architects.

The compulsory conditions of the Act will weigh heavily upon the architect's assistant, and one of the primary indignities he will suffer will be that of being forced into societies in which his special conditions and consequent possibilities of improved benefits will not be considered, and he will find himself amongst a very mixed crowd of mechanics and working men whose conditions of employment are far more provocative of ill-health and consequently lowering the scale of benefits to their level. There is strong reason for believing that the bulk of practitioners will cease paying the full salary to their assistants when absent due to illness. An Inter-departmental Committee has recommended that civil servants shall not receive wages from the State during the period sick benefit is being received under the Act. With such an example as this before them, any benevolent decision that may have been made by employers on behalf of their assistants will be greatly shaken. It follows, therefore, that the scale of benefits for architects' assistants should be raised to the maximum to relieve those who desire to maintain their assistants' income at the same level in sickness as in health. This can only be done by an approved society composed of members living under similar conditions and thus presenting the necessary factors to determine the risks of illness and the consequent maximum benefits. It would prove more businesslike for the bulk of the profession to deal with a society promoted by the Royal Institute, and certainly more dignified and independent for the assistant than the alternative of compulsory entry into an organisation which cannot appreciate his interests or those of his employer.

The conditions for the formation of an approved society are mainly as follows: It must not be carried on for profit; the members elect their executive committee and officials; the membership must be at least 5,000; security against misuse of funds, either in form of a guarantee fund, a bond with personal securities, or that of a guarantee society; an audit of accounts by Government auditors, and a triennial actuarial valuation and adjustment of benefits or contributions to preserve solvency.

The Royal Institute is fully capable of this undertaking in conjunction with the societies I have named.

The advantages to be gained are those which will arise out of the proper study of all the circumstances which peculiarly concern our profession and to apply the result to the mitigation of any evils which may be brought about by this unwelcome addition to the Statute Book.

The prospect of the founding of such a society in which all classes of the profession are brought together suggests the formation of a platform of mutual interest upon which many reforms dealing with organisation could find a basis for further development. Other societies dealing with obscure trades are being formed with similar objects, and there is no reason why the Royal Institute of British Architects should not endeavour to make a similar use of the Act in regard to the architectural profession.

I trust that this effort to bring before your readers a practical aspect of an Act which is compulsorily thrust upon us, and will render its working less inconvenient, will receive the early attention of the Council of the Royal Institute within the next three months—October 14 next being now fixed as the final date for the formation of an approved society.

ERNEST J. DIXON, A.R.I.B.A.

Alterations to a House: John Thompson & Co. *v.* Thompson.

SIR,—From the report of this case given in your paper for July 5, page 25, it would appear that we had employed no foreman on this work.

Will you kindly allow us to correct this and to say that, whilst we did not consider it right to saddle our client with the expense of a "walking" foreman, we had in charge of the work a trustworthy "working" foreman in whom we have the utmost confidence, and such as we are accustomed to employ on work of this nature, whether contract or day work!

JOHN THOMPSON & CO.

The Insurance Act.

SIR,—The National Insurance Act will shortly be upon us, and no doubt thousands of your readers, like myself, are beginning to realise that a considerable amount of extra work will be thrust upon them every week, not only in stamping the cards, but in adjusting the wage sheets and books wherever any large number of men are employed; in other words, the clerks and others who have to deal with wages will become unpaid collectors for the friendly societies—a state of affairs which, to my mind, is unjust in the extreme. The societies themselves are entirely relieved of the cost and trouble of collecting the contributions. Can anything be done? Surely the societies or the Government should allow a stated sum for, say, every 100 men employed on large concerns, more especially where they come under both sections of the Act.

G. J. OSBORN.

INTERCOMMUNICATION COLUMN.

Mural Painting.

SIR,—In your issue of July 5 "Mural Painter" inquires how his canvas should be affixed to the wall to avoid sagging and the ill-effects of damp. If the wall of his new church are now damp in any degree he will be unwise to begin operations at all; but if they are now thoroughly dry he should proceed as follows:—First paint the wall to be covered two or three coats in oil; also paint the back of the canvas. When he wishes to attach the canvas it must receive another coat of very stiff, or, as the painters call it, "round" white-lead; but, since handling it thus painted is a difficult matter, it is better to place it on a wood roller (if the space allows), rolling it on to the wall and painting it bit by bit as the canvas back is exposed. This needs much care, both in starting on a true line and pressing it evenly to the wall. Your correspondent speaks of painting in tempera; but a damp-proof back does not make for safety in tempera unless the painter is experienced in the strength of his medium (size or other), for it is apt to scale. If his walls are really dry he had better paint direct on the plaster. If he paints on canvas affixed as described he had better paint in "spirit fresco," or some such method. Gambier Parry painted in Gloucester Cathedral on canvas attached to the wall in the manner described. J. D. CRACE.

ILLUSTRATIONS.

Regent's Quadrant Competition.

THE result of the competition instituted by the proprietors of the *Builder* was announced last week, and in the present issue several of the designs are illustrated. One of our plates shows the design placed first. It is by Messrs. Richardson & Gill, and of it the following criticism was made by Messrs. Flockhart, Rickards, and Munby:—"The assessors consider that the principles embodied in the design placed first, as illustrated in the alternative sketch, are effective as carrying on the main horizontal lines laid down by the Piccadilly Hotel frontage, while preserving a scale of architecture suitable for the width of this particular street. They regret that the shop fronts and frieze of the windows under the main cornice were not detailed on the eighth-scale drawing, as they are shown on the alternative sketch."

Of the design by Mr. Albert W. Moore, F.R.I.B.A., which forms our second plate, the assessors wrote:—"No. 103 shows the same regard for practical considerations and general proportions as the above, but the use of pediments on this curved frontage is questionable, and the depth of the recessing between the two end blocks is too great. The detail would require to be more scholarly in execution than suggested on the drawing."

Thames House, Southwark Bridge.

THIS important building by Mr. Stanley Hamp, A.R.I.B.A., of Messrs. Collcutt & Hamp, is described in detail in the article beginning on p. 47.

MEETINGS.

SATURDAY, JULY 13.

Manchester Society of Architects.—Visit to Liverpool Cathedral and Midland Adelphi Hotel.

WEDNESDAY, JULY 17.

Northern Architectural Association.—Annual excursion.

COMPETITION NEWS.

A list of current Competitions is printed on page 60.

Regent's Quadrant Competition.

Illustrations appear in this issue of some of the designs submitted for the Regent's Quadrant competition promoted by the proprietors of the *Builder*, and further illustrations will be given in subsequent issues.

Scottish National Memorial to King Edward VII.

The following gentlemen were invited to take part in a competition for a memorial in Edinburgh to his late Majesty:—Sir R. S. Lorimer, Mr. G. Washington Browne, Mr. Hippolyte J. Blanc, Mr. J. J. Burnet, Mr. H. E. Clifford, and the late Mr. R. J. Macbeth.

The Executive Committee have adopted the design of Mr. G. Washington Browne, R.S.A., 24, Charlotte-square, Edinburgh. Mr. Albert H. Hodge will be the sculptor of the bronze group.

Glasgow Municipal Buildings Competition.

At a meeting of the Glasgow City Council, held on the 4th inst., the conditions of this important competition were finally approved, and they will be issued immediately to intending competitors.

The existing municipal buildings are well known as one of the most important works of the late William Young, and are practically square in plan with a centre courtyard. The principal front is to the west facing George-square, while the other fronts are on the north side to George-street, the south to Cochrane-street, and the east to John-street. The intention generally is to erect the extensions on the east side of John-street, and connect them to the existing buildings by a bridge or bridges, thus forming John-street practically into a second internal court.

The disposition and architectural treatment is, of course, left to the competitors, but its harmony with the existing building and with the existing sanitary chambers in Cochrane-street will require very careful consideration.

The conditions of competition as drafted were all that could be desired, but two rather important modifications were made on them at the Council meeting. The arrangement is that the competition will be in two stages, and the intention was that the five best sketch designs submitted in the preliminary competition should be elaborated in the "final," but the right of nominating three additional well-known architects for this stage was reserved.

By a majority the Council decided to withdraw this latter clause. The other amendment made was to the clause in the conditions which provides that if no instructions are given to the selected architect to proceed with the building within twelve months from the assessor's award then he shall be paid a sum equal to 1¼ per cent. of the amount of the estimated cost.

As this is 150,000*l.*, the Corporation would thus be liable to pay about 1,800*l.* in the event of the building not proceeding. The majority of the Council considered this to be too large a sum, and it was agreed to fix the liability instead at 500*l.* An attempt was made to remove the clause excluding the Corporation's own architects from competing, but this proposal did not receive support.

The assessor, as we have before stated, is Mr. John J. Burnet, of Glasgow, and the profession at large will look forward with interest to the results of this very interesting competition. The date for submitting designs in the preliminary competition is fixed for October 29 next. The five selected competitors will be paid the sum of 100 guineas each.

Sheffield King Edward Memorial.

The assessors in the competition for the King Edward VII. Memorial Crippled Children's Institution (Mr. E. M. Gibbs and Mr. F. E. P. Edwards) have now submitted their award, which has been confirmed by the Committee. The names of the successful competitors are as follows, in the order stated:—(1) Mr. A. W. Kenyon, 8A, George-street, Sheffield; (2) Mr. W. J. Hale, 13, St. James'-row, Sheffield; (3) Messrs. Hall & Fenton, 10, Paradise-square, Sheffield. The whole of the designs will be exhibited in the Mappin Art Gallery as soon as arrangements can be made for this to be done.—*Sheffield Independent.*

Proposed High School at Motherwell.

At a recent meeting of the Dalziel School Board it was resolved to proceed with the erection of a new High School on a site off Hamilton-road, and it was agreed to invite competitive plans from a few of the best-known architects in Edinburgh and Glasgow, and to allow local architects to compete if they desired.

Mr. J. J. Burnet, A.R.S.A., of Glasgow, was appointed assessor, and the premiums to be offered were fixed at 50*l.*, 30*l.*, and 20*l.*

The intention is to provide for a fully-equipped higher grade school, with provision for an elementary department which could be completed at some future date. No estimate of cost was fixed, but it is understood that this would be well up to 20,000*l.*

Town Planning in Huddersfield.

The Housing and Town Planning Committee of the Huddersfield Corporation invite competitive designs from architects for the laying-out of certain areas within the county borough and part of an adjacent suburb. Premiums of 100 guineas, 50 guineas, and 25 guineas are offered.

Proposed West of Scotland Teachers' Training College.

We understand that in connexion with the limited competition for this building the conditions are now being adjusted, and that Mr. Frank T. Baggallay, F.R.I.B.A., of London, has been appointed assessor.

The names of the invited architects for this competition are given on page 635 of our issue of December 1 last. They will receive an honorarium of 50*l.* each.

Proposed School at Govan-hill for the Govan School Board.

The Govan School Board propose to erect a new school at Govan-hill, and have invited the following architects to submit competitive plans:—Mr. Andrew Balfour, Messrs. H. & D. Barclay, Bruce & Hay, Halley & Neil, Honeyman, Keppie, & Mackintosh, and Thomson & Sandilands.

Designs for Royal Palace and Law Courts, Sofia, Bulgaria.

H.M. Legation at Sofia report that the Ministry of Public Works, Sofia, invite the submission of designs for (1) a new Royal Palace and (2) new Law Courts. Four prizes are offered in each competition to the value of 10,000 francs (400*l.*), 7,000 francs (280*l.*), 4,500 francs (180*l.*), and 2,500 francs (100*l.*) in the case of (1); and 6,000 francs (240*l.*), 4,000 francs (160*l.*), 2,500 francs (100*l.*), and 1,250 francs (50*l.*) in the case of (2). Architects wishing to compete must submit their designs not later than December 1 next to the "Section d'Architecture au Ministère des Travaux Publics," Sofia, where copies of the programmes, etc., may be obtained on request. A copy of the programme (in French) of each competition may be seen by British architects at the Commercial Intelligence Branch, as above.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, S.W., Lord Cheylesmore, Chairman, presiding.

Loans.—The Finance Committee recommended, and it was agreed, that loans should be made to borough councils as follows:—Battersea, 997*l.* for street improvements; Stoke Newington, 8,000*l.* for repaving works; and Westminster, 21,436*l.* for street improvements.

Lambeth Bridge.—At the next meeting of the Council the Improvements Committee will recommend the Council to proceed with a scheme to Parliament for the building of a new bridge over the Thames at Lambeth at a cost of about 240,000*l.*

Chief Engineer.—The General Purposes Committee recommended, and it was agreed, that applications should be invited by public advertisement for the position of Chief Engineer to the Council to succeed Sir Maurice Fitzmaurice, who has resigned, at a salary of 2,000*l.*

The members of the present staff are to be allowed to make application.

FIFTY YEARS AGO.

From the *Builder* of July 12, 1862.

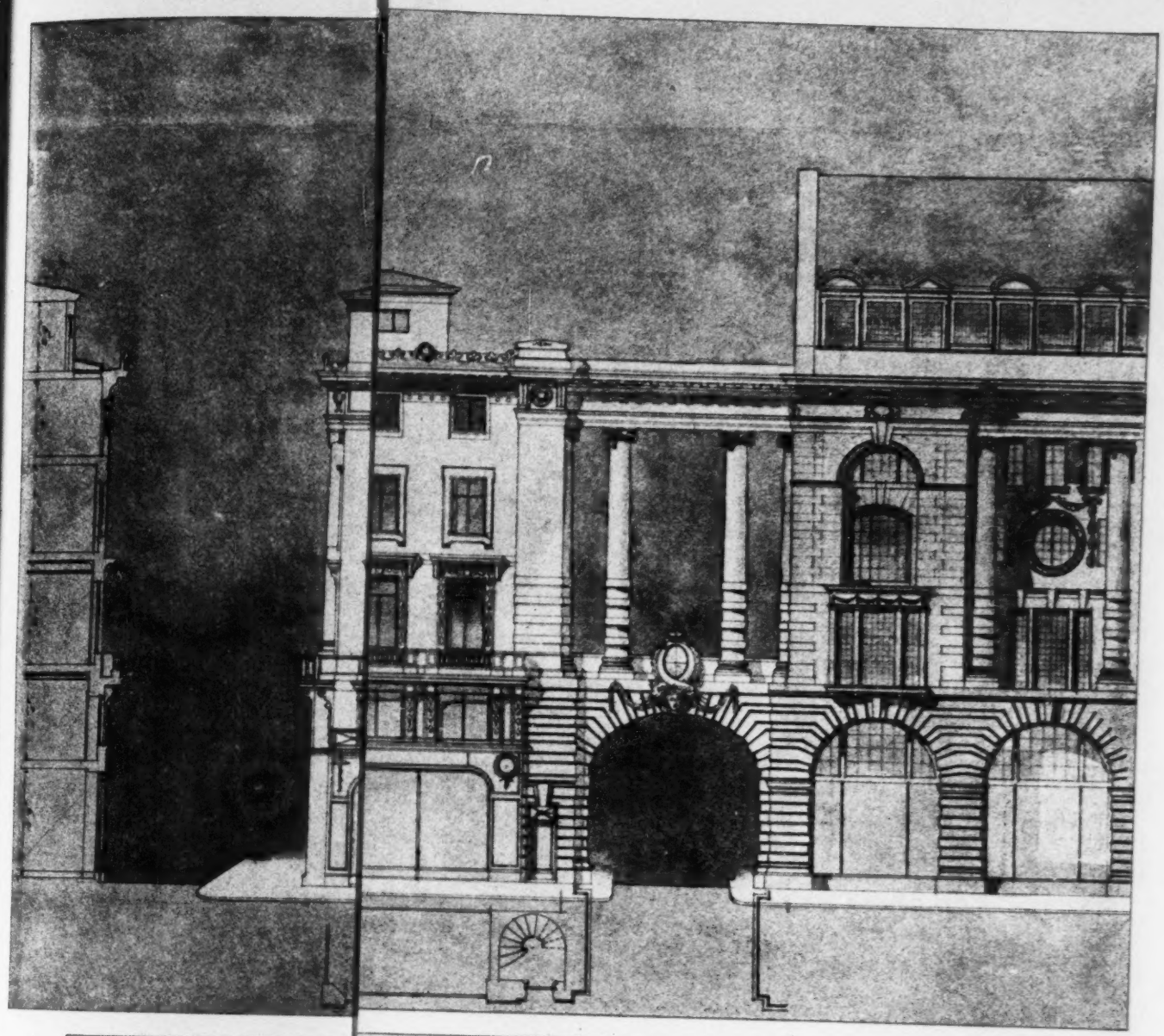
The Thames Embankment Bill.

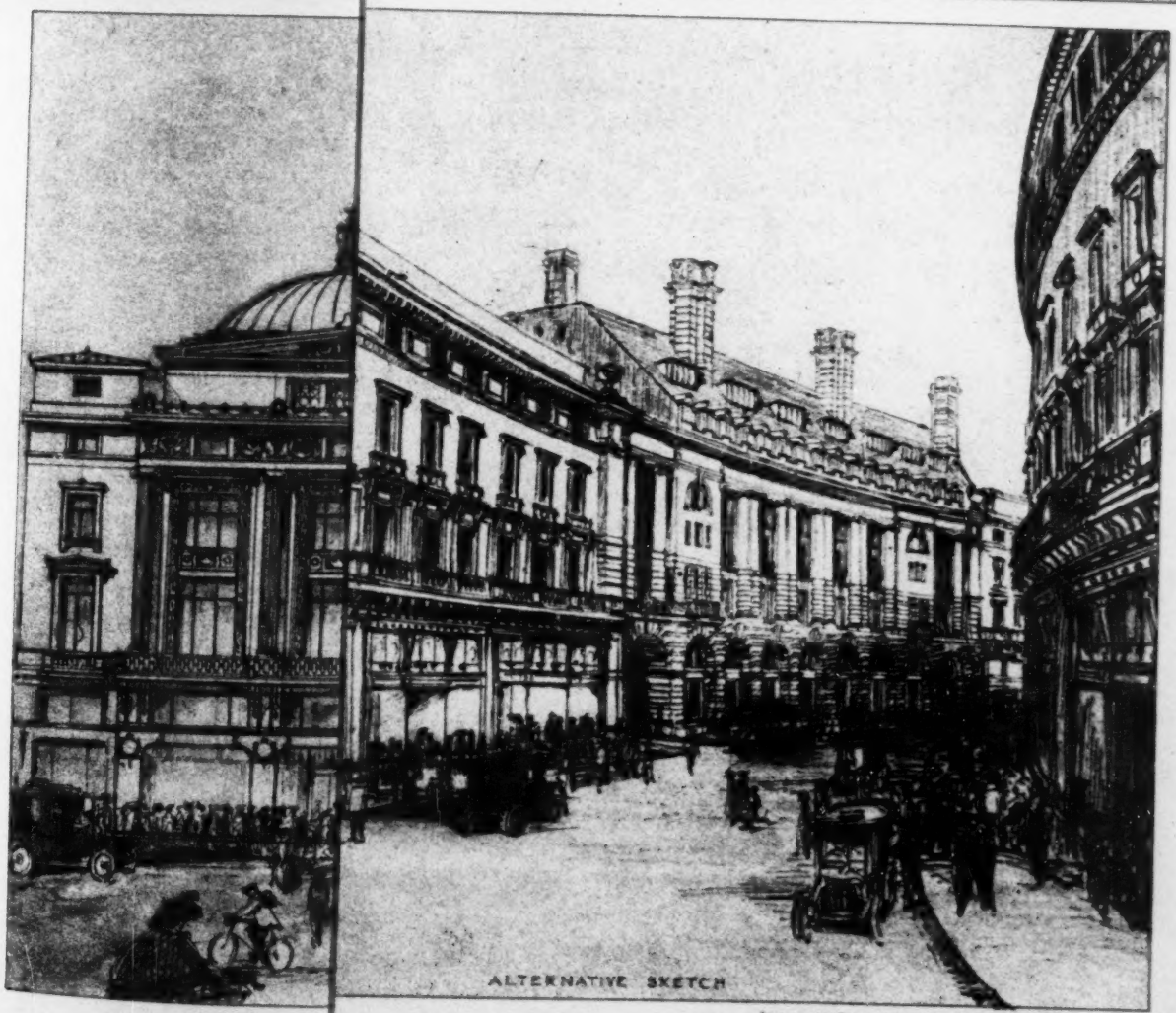
THIS Bill has passed, in the Commons, through Committee of the whole House, who have expunged the obnoxious clause restricting the public roadway to a footpath between Whitehall Stairs and Westminster Bridge. This the House quite rightly persisted in doing, although the Government desired merely to amend the clause so far as to limit the absurd arrangement till Parliament should otherwise provide. Parliament preferred at once otherwise to provide.

*** This exhibition of jealous regard displayed towards the precincts of Westminster finds a parallel two hundred years earlier, and is recorded in a footnote to Lord Braybrooke's edition of "Pepys's Diary":—"The landing-place leading from the Thames to New Palace-yard, still used by the Lords Mayor on their way to be sworn into office at the Exchequer, was styled in the old maps 'Westminster Bridge.' There had been a plan of building a bridge across the Thames near this place in 1664, which is thus noticed in the correspondence of the French Ambassador with Louis XIV.:—'Sur ce qui avoit été proposé de faire un pont devant Withall pour passer du côté de Faxall, la ville s'y est opposé par des vives remonstrances; et le Roy a declaré que de son vivant il n'y consentirait ce qui a extrêmement satisfait les bateliers qui sont un corps fort considerable dans cette Ville.'"—ED.

ARCHITECTURAL DEPARTMENT, UNIVERSITY OF LONDON, UNIVERSITY COLLEGE.

An exhibition of work done by students in the Architectural Department during the past session will be held in the Science Library, University College, from Saturday, July 13, to Saturday, July 20, both days inclusive. The exhibition will be open to the public from 9 a.m. to 6 p.m.





"INK-PHOTO" SPRAGUE & Co LTD 68 & 70, DEAN STREET, SOHO, W.

DSON & C. L. GILL, A.R.I.B.A.

Palace and Law Courts, a, Bulgaria.

at Sofia report that the Works, Sofia, invite the ms for (1) a new Royal Law Courts. Four prizes competition to the value 00*l.*), 7,000 francs (280*l.*), and 2,500 francs (100*l.*) is 6,000 francs (240*l.*), 4,00 francs (160*l.*), and 1,20 e case of (2). Architects must submit their design mber I next to the "Section Ministère des Travaux here copies of the pro- be obtained on request, ramme (in French) of each seen by British architects at lligence Branch, as above.

DON COUNTY OUNCIL.

y meeting of the London held on Tuesday in the ing-gardens, S.W., Lord an, presiding.

ance Committee recom- agreed, that loans should gh councils as follows:— or street improvements, 000*l.* for repaving works; 1,436*l.* for street improve-

—At the next meeting of Improvements Committee Council to proceed with ment for the building of a Thames at Lambeth at a *l.*

—The General Purposes nded, and it was agreed, ould be invited by public e position of Chief Engineer succeed Sir Maurice Fitz signed, at a salary of 2,000*l.* he present staff are to be plication.

YEARS AGO.

der of July 12, 1862.

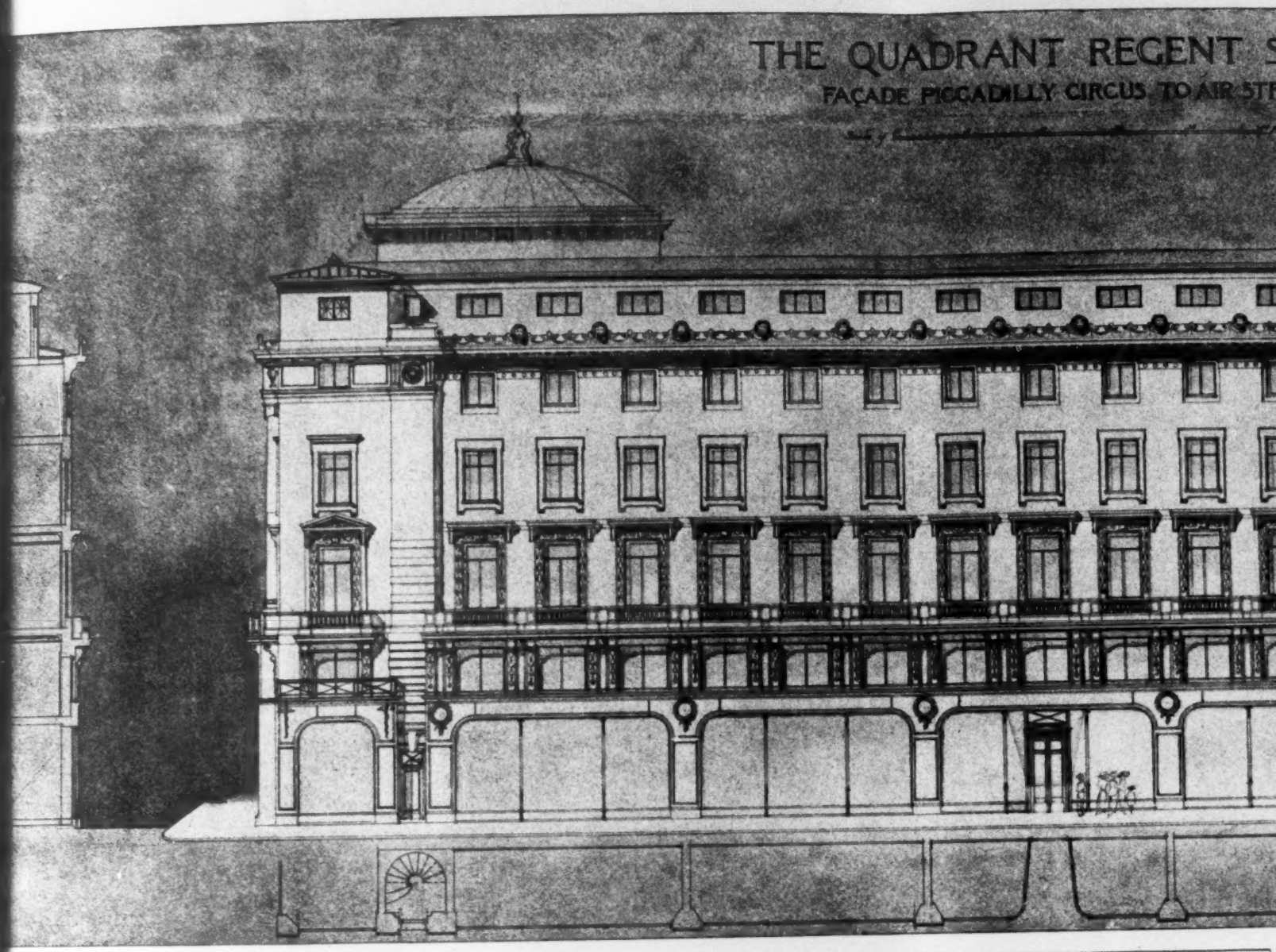
Embankment Bill.

assed, in the Commons, of the whole House, who obnoxious clause restrict- way to a footpath between nd Westminster Bridge. uite rightly persisted in he Government desired the clause so far as to rangement till Parliament rovide. Parliament pre- rwise to provide.

ion of jealous regard the precincts of West- rallel two hundred years ded in a footnote to Lord n of "Pepys's Diary":— leading from the Thames , still used by the Lords y to be sworn into office was styled in the old er Bridge.' There had lding a bridge across the ace in 1664, which is thus espondence of the French Louis XIV.:—'Sur ce qui de faire un pont devant r du côté de Faxall, la é par des vives remon- y a declaré que de son ntirait ce qui a extrême ateliers qui sont un corps ans cette Ville.'"—Ed.

ARTMENT, UNIVERSITY OF IVERSITY COLLEGE.

work done by students in partment during the past in the Science Library, from Saturday, July 13, 20, both days inclusive. e open to the public from



"THE BUILDER" REGENT'S QUADRANT COMPETITION: FIRST PREMIATED DES

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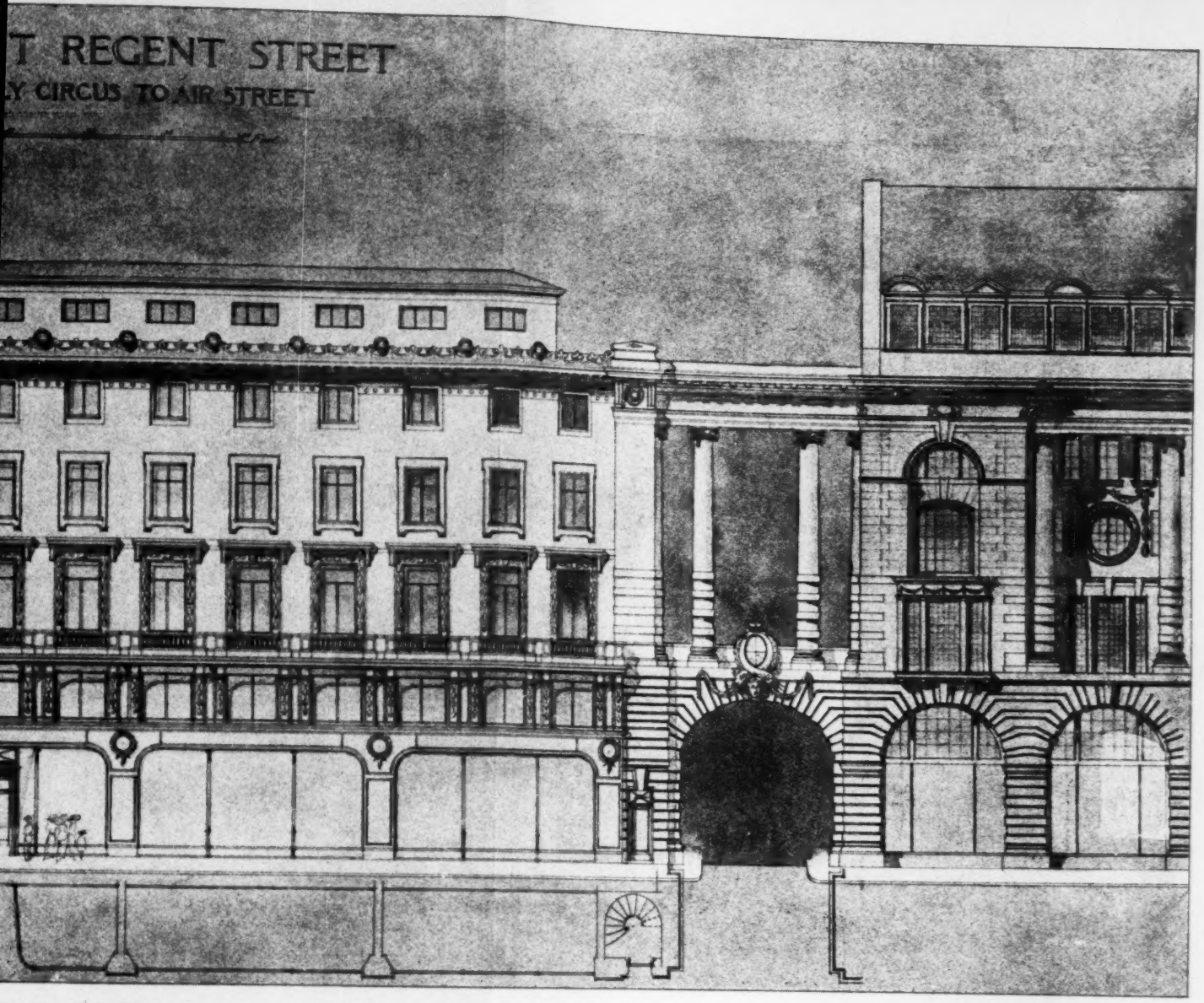
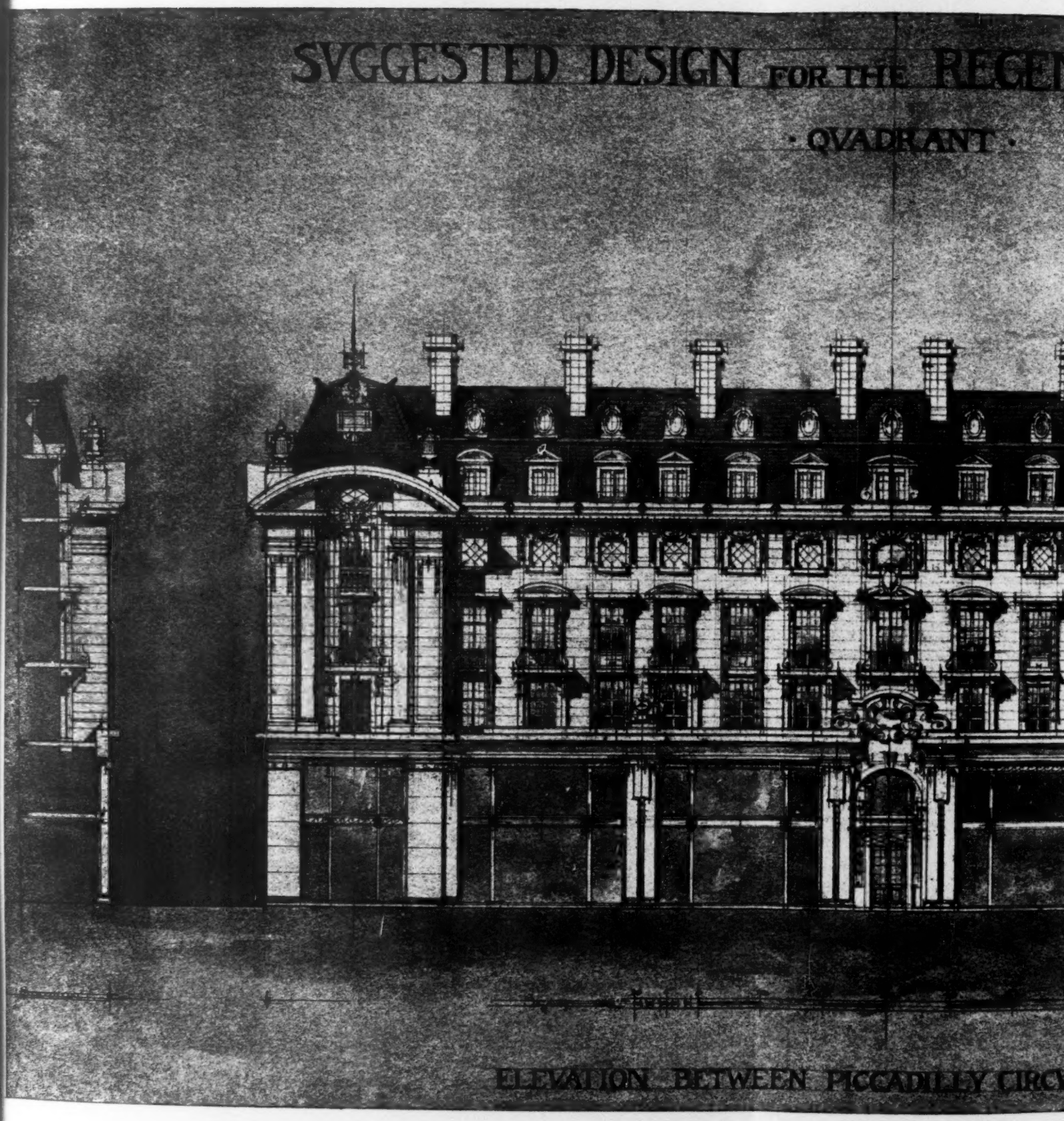


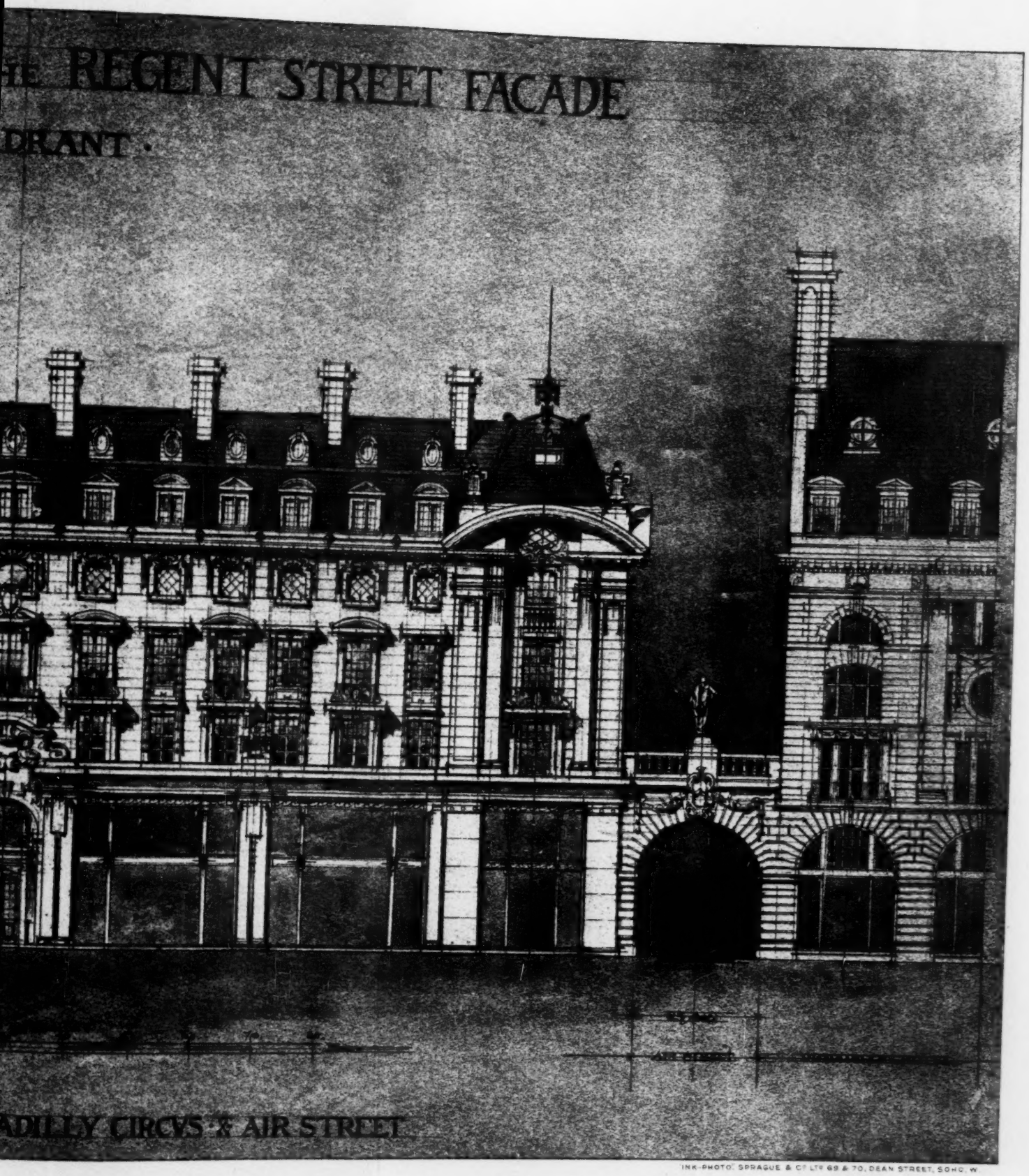
ALTERNATIVE SKETCH

"INK-PHOTO" SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

T PREMIATED DESIGN.—By Messrs. A. E. Richardson & C. L. Gill, A.R.I.B.A.



"THE BUILDER" REGENT'S QUADRANT COMPETITION: SECOND PREMIA



INK-PHOTO. SPRAGUE & Co. LTD 69 & 70, DEAN STREET, SOHO, W.

ON: SECOND PREMIATED DESIGN.—By Mr. Albert W. Moore, F.R.I.B.A.

THAMES HOUSE, SOUTHWARK BRIDGE, E.C.—M[illegible] HAMP, A.R.I

"THE FRUITS OF LAND AND WATER."

MR. RICHARD GARBE, SCULPTOR.

Sprague & Co., Ltd., Printers, 69 & 70, Dean St., Soho, W.

"WISDOM IN COMMERCE."

MR. RICHARD GARBE, SCULPTOR.

[illegible]DGE, E.C.—M[illegible] HAMP, A.R.I.B.A. (of Messrs. Collcutt & Hamp) ARCHITECT.

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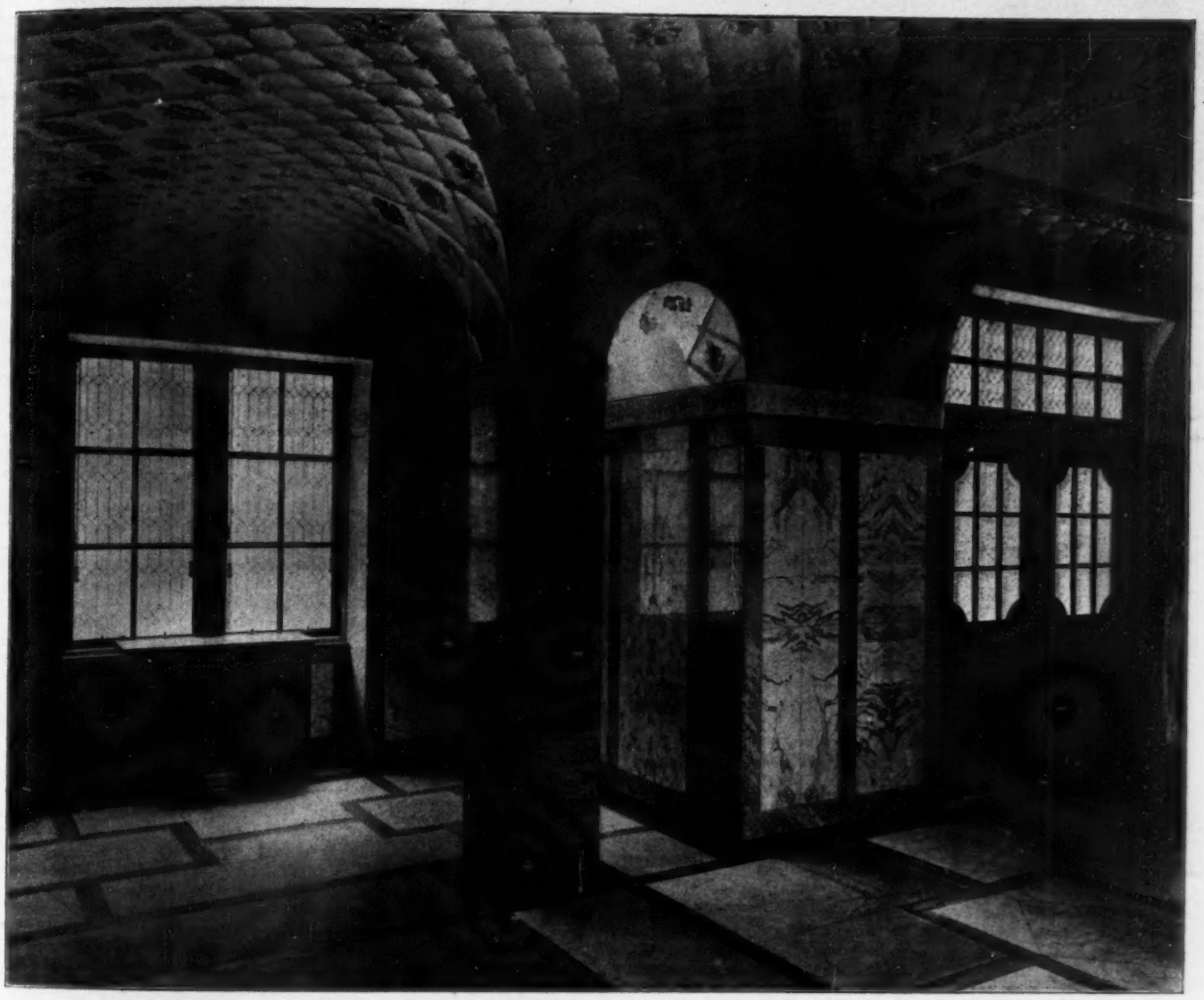
MONTHLY REVIEW · *of* · CONSTRUCTION.



Thames House: Central Entrance Hall.
Mr. Stanley Hamp, A.R.I.B.A., Architect.

THAMES HOUSE, SOUTHWARK BRIDGE, E.C.

A STRIKING architectural work recently erected in a quarter of the City hitherto not particularly renowned for its buildings consists of the large block of offices occupying a fine site at the junction of Upper Thames-street and Queen-street-place, near Southwark Bridge; it has been carried out from the designs of Mr. Stanley Hamp (of Messrs. Collcutt & Hamp).

The premises, known as "Thames House," occupy a portion of the estate of the Vintners' Company and adjoin Vintners' Hall at the north end.

They have been built for Liebig's Extract of Meat Company, Ltd., the lower portion including two covered yards, occupied by the London and South-Western Railway Company and Messrs. Tate, together with a range of vaults occupied by Messrs. Sandeman. The remainder of the building has been laid out for use as offices.

The main front, of which a portion is shown in one of our plates, extends along Queen-street-place for the length of about 280 ft., the north front on Upper Thames-street is about 38 ft. 6 in. long, and the south front looking towards the river is about 80 ft. long.

Thus, as shown by the plans reproduced on page 49, the building is L-shaped in plan, the south wing providing several unusually well-lighted offices in an exceptionally open situation.

The steep gradient of the Southwark Bridge approach—the main obstacle to the general use of this cross-river communication—must have presented some interesting problems for solution by the architect when setting out the floors of the new building.

This will be gathered from the statement that the first floor is little above pavement level at the south end, and approximately 20 ft. above Upper Thames-street at the north end.

The varying level of the street has been dealt with by the architect in the ingenious manner illustrated in part on page 48, which shows a longitudinal section.

At the junction of Upper Thames-street and Queen-street-place the office or show-room, provided with a separate corner entrance, starts at a level about 3 ft. 6 in. below that of the ground floor, reducing the height of the lower ground-floor story beneath it by an equal amount.

By lowering the floor in this manner the height of the corner apartment is advantageously increased, and the floor is brought within 4 ft. 6 in. from the pavement, convenient means of access being furnished by two flights of four steps in the entrance.

On the western side of the Upper Thames-street front there is an independent entrance to the left, the use of which is not indicated on the drawings, but we presume the entrance and lift are intended for delivering goods to and from the vaults constituting the basement story.

In Queen-street-place, next to the corner office, is the lower main entrance, about 6 ft. below ground-floor level.

The entrance hall, slightly above street level, measures 25 ft. 6 in. wide by 12 ft. from front to back and includes two flights of stairs, one of eight steps leading up to the main hall and the other leading down to the lower ground floor and the basement.

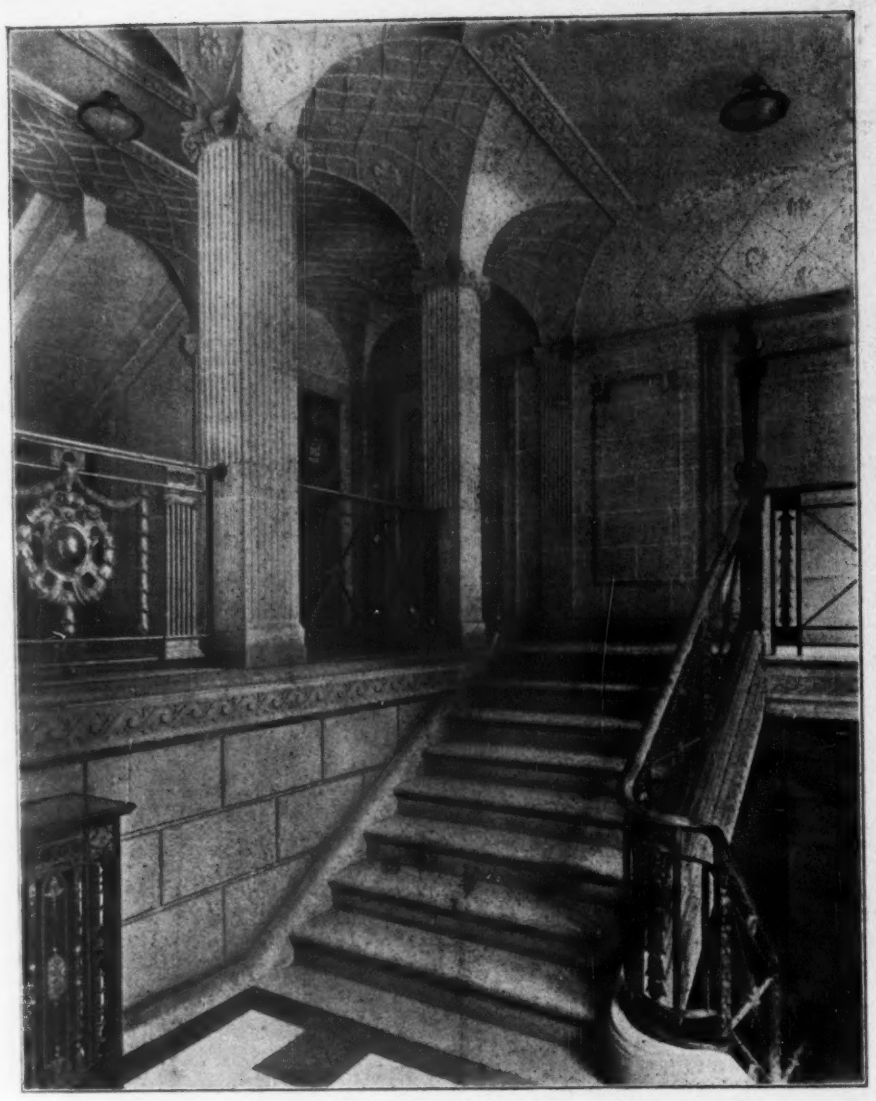
On page 48 is a reproduction of a photograph of the lower entrance hall, and, although it enables our readers to gather an excellent idea of the general architectural treatment and the handsome metal balustrades on the stairways and landings, it affords no indication of the harmonious colour scheme which is an equally noteworthy feature of the whole design.

The flooring and stair-treads are in Sicilian marble with black marble floor bordering, the walls and columns are finished in French *stuc*, and the ceilings and column capitals are executed in enriched modelled fibrous plaster.

The proportions of the main hall are considerably reduced by the store and lift enclosure at the left hand and right hand respectively, as well as by the staircase leading to the upper floors. The finish of the hall and staircase is generally similar to that of the entrance hall, and, as will be noted with satisfaction by those of our readers who are practically interested in fire-resisting design, the lift enclosure is solidly constructed in incombustible material.

About midway between Upper Thames-street and the south end of the building is the central entrance, approximately at ground-floor level. Just beyond this entrance the ground floor, lower ground floor, and basement stories are stopped by a transverse division wall, on the other side of which are the offices and covered yard of the London and South-Western Railway Company and the covered yard of Messrs. Tate.

The exterior of the central entrance is surmounted by a group of statuary representing Abundance, by Mr. F. Lynn Jenkins, R.B.S., of Kensington. Passing through a vestibule with curved sides, the main hall is reached, a well-proportioned apartment, at the back of which is the principal staircase, with a passenger lift in the square well.



Thames House: Interior of Lower Main Entrance Hall.

Mr. Stanley Hamp, A.R.I.B.A., Architect.

The walls are lined with marble to the height of 7 ft., the stiles and rails being in Vert d'Estours marble, and the panels opened out in Arni Alto marble. The pavement is laid in slabs of demi statuary with bands in Cippoline marble, other details of the decorative work being similar to those in the lower main entrance.

A few steps to the south of the central entrance is a doorway opening upon a lobby with a flight of three stairs giving access to the offices of the London and South-Western Railway Company. These offices are suspended over the adjoining covered yard, and are at the same level as the ground floor of the main building.

At the south end of the premises the first floor is only a short distance above street level, and is approached directly from the upper main entrance, illustrated in our plates.

The sculpture over the doorway and above the windows on the fourth-floor story was executed by Mr. Richard Garbe.

From the porch a flight of ten steps leads up to the entrance hall, 26 ft. long by 10 ft. wide, including the staircase communicating with the floors above. The lift well here, as at the lower main entrance, is enclosed by the fire-resisting walls. Beneath the stairs is a room for the accommodation of electricity meters and main switches and fuses in connexion with the power and lighting circuits.

As shown in the plans, the offices over the yard occupied by Messrs. Tate are provided with exit stairs, affording convenient means of communication between the various floors and providing additional safety for occupants of the building in the event of fire.

Including the basement and lower ground-floor stories, the building comprises nine floors, with the exception of the part facing Upper Thames-street, where the main mansard roof gives place to one at the lower level.

The plans illustrated are typical of the upper floors. The third floor is partitioned off for occupation by the directors and office staff of the proprietors. On the upper floors the principal staircase landings from the ground floor to the fifth floor are finished in Sicilian and black marble, the skirtings around the landings and up the stairs being in Hauteville marble. The staircase walls and ceilings are in French *stuc* and fibrous plaster, harmonising with the entrance halls. The corridors on the principal floor are similarly treated. Parquetry flooring has been laid in various offices and corridors, and marble terrazzo pavement in the lavatories.

The board-room on the third floor is a handsome apartment, 36 ft. long by 18 ft. wide, with two bay windows opening upon a balcony over Upper Thames-street. The interior is panelled in mahogany with carved lime-wood frieze and enrichments executed by Messrs. H. H. Martyn & Co., Ltd., of Cheltenham.

With the exception of the principal rooms, halls, and staircases, the interior of the building is finished on simple lines suitable for office purposes, and we may add that the general character of the construction is well adapted for the erection of partition walls wherever they may be required for the subdivision of the interior space into large or small offices.

The building throughout is constructed of fire-resisting materials with solid floors and roofs, and, although considerable quantities of steel have been used in the form of stanchions, girders, and joists, it is essentially a masonry structure.

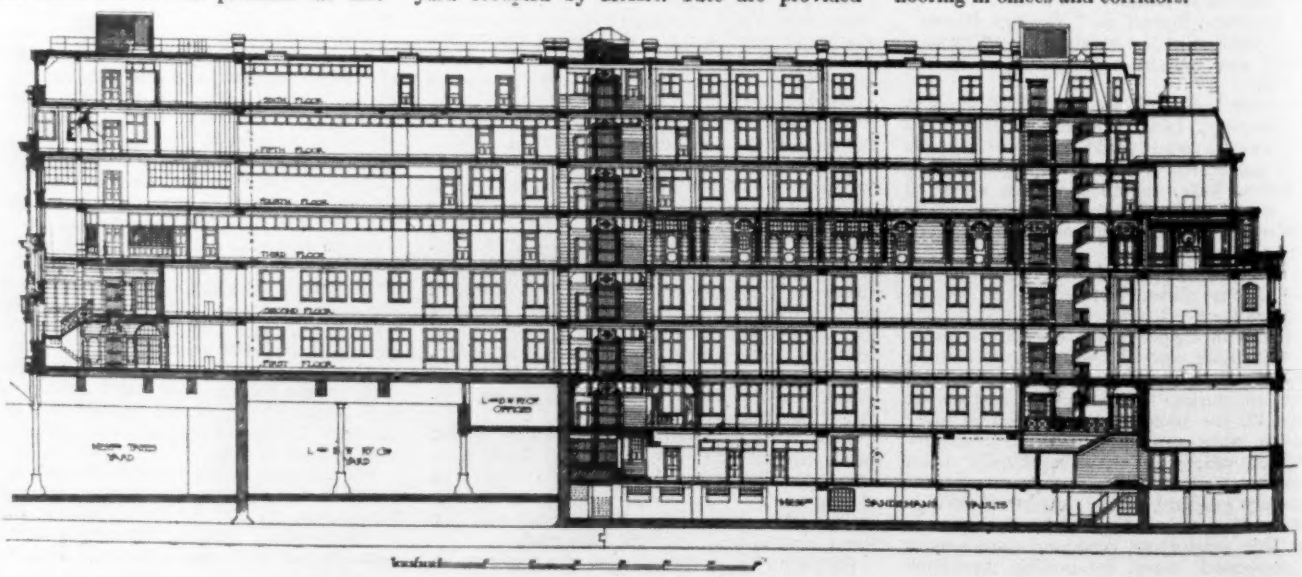
The exterior is faced with brown Portland stone on a basement story of grey Aberdeen granite, the front slopes of the roof being covered with green Westmorland slates, and the roofs and flats at the back with asphalt. All the front window-sashes are in wrought-iron, which has also been used to a large extent in the form of sliding sashes.

The general building contractors were Messrs. George Trollope & Sons & Colls & Sons, Ltd., and the clerk of the works was Mr. J. Robinson.

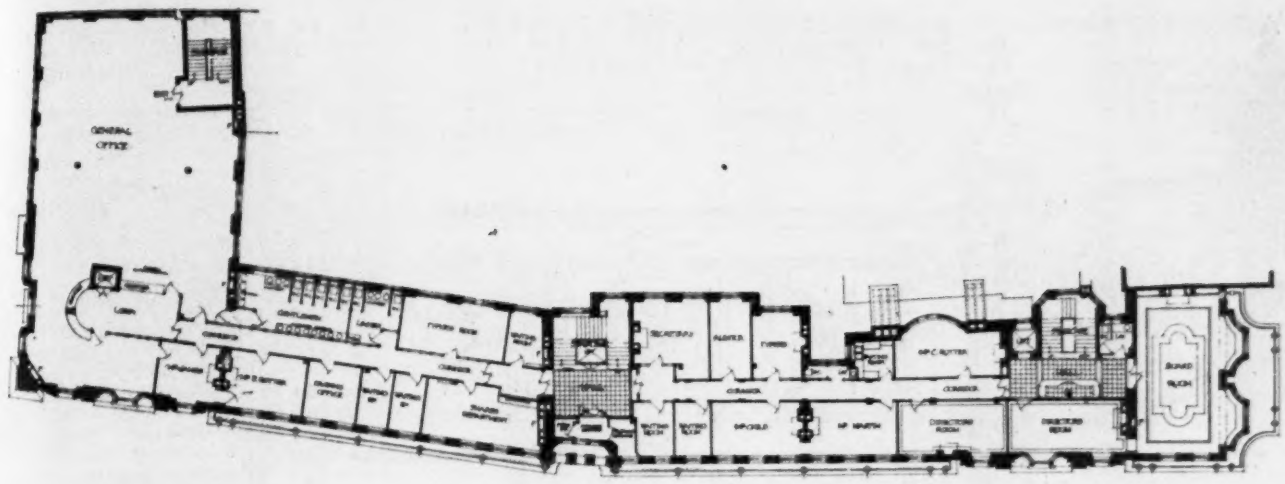
The steelwork was constructed and erected by Messrs. H. Young & Co., Ltd., of Nine Elms, S.W., under the direction of Messrs. Reade, Jackson, & Parry, the consulting engineers, acting in conjunction with the architects.

Granite for the exterior was supplied by Messrs. Fyfe, Ltd., and the Portland stone by Mr. F. J. Barnes, of Portland. The Leeds Fireclay Company, Ltd., supplied their "Grypto" patent wall tiles and safety-back tiles in light green, ivory, and white glaze, and "Shepwood" partition bricks.

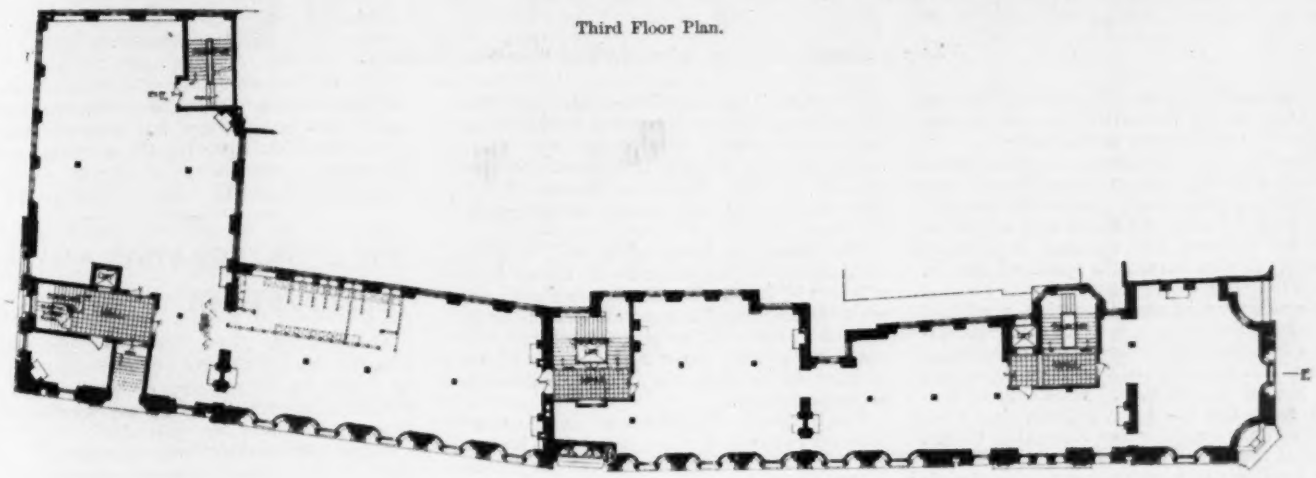
All the marble work described above was carried out by Messrs. Burke & Co., of Rathbone-place, W., who also laid the terrazzo pavement in the lavatories and parquetry flooring in offices and corridors.



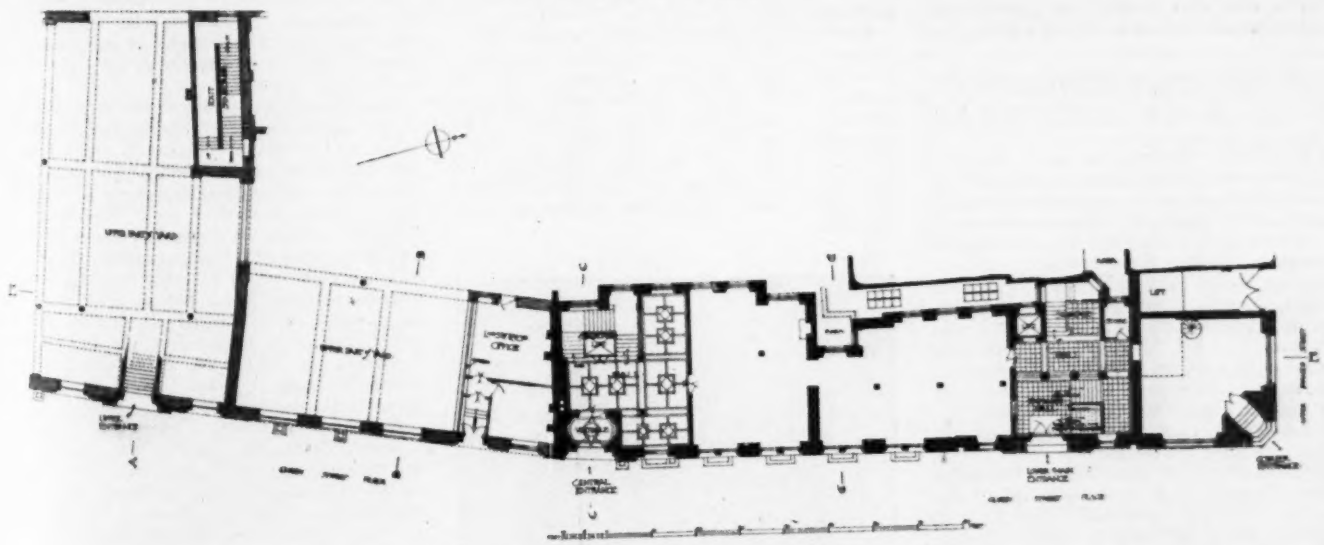
Thames House: Longitudinal Section.



Third Floor Plan.



First Floor Plan.



Ground Floor Plan.

Thames House, Southwark Bridge, E.C.

Mr. Stanley Hamp, A.R.I.B.A., Architect.

The French *stuc* and fibrous plaster decorations, which are a special feature of the interior of the building, were executed jointly by Messrs. G. Jackson & Sons, Ltd., and Mr. G. P. Bankart. The asphalt covering of the stone cornices and balconies, the tops of the pediments and secret gutters, and the back of the mansard roof was carried out by Messrs. Thomas Faldo & Co., Ltd.

The details entrusted to the British Luxfer Prism Syndicate, Ltd., comprised wrought-iron stallboard lights and grilles, skylights and ceiling lights, and fire-resisting glazing in various positions.

Bronze radiator casings, name frames and tablets, counter grilles, wrought-iron gates, and other fittings were furnished by Messrs. H. W. Cashmore & Co., of Westminster. Illustrations of two details appear on p. 50. Ornamental locks and handles for the board-room doors, Persian fireplace tiles, and bronze gratings were supplied by Messrs. Thomas Elsley, Ltd., of Great Titchfield-street, W., and door and window fittings by Messrs. Gibbons.

Heating and Hot-water Installations.—These systems were carried out by Messrs. G. N. Haden & Sons, under the direction of the consulting sanitary engineers, Messrs. Corby & Boyce, of Buckingham-street, W.C.

The building is warmed on the low-pressure hot-water system, with circulation accelerated by means of an electrically-driven turbine pump.

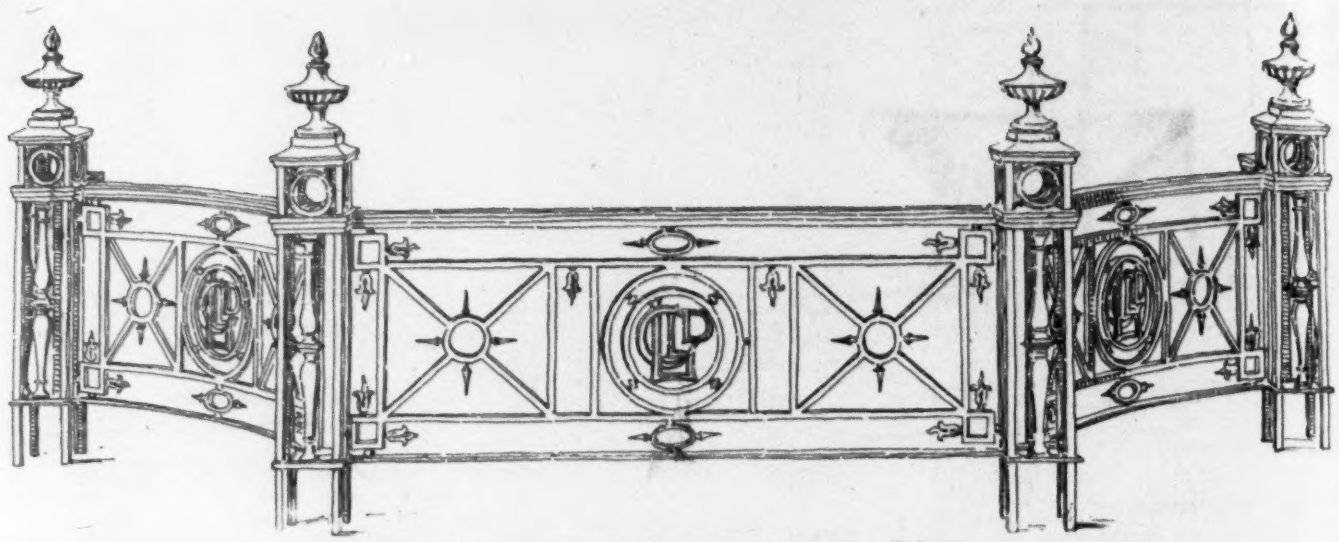
The boilers are of the cast-iron sectional type, and the circulation pipes had to be run practically regardless of levels owing to the position of the boiler house and the arrangement of the floors, these conditions rendering accelerated circulation quite indispensable. The pipe system is divided into various sections, each controlled from the boiler house, either for the adjustment of temperatures and shutting down for repairs, alterations, or extensions.

Thanks to the accelerated circulation, the pipes are of small diameter, and with the exception of those in the lower ground story are kept entirely out of sight.

Radiators are employed for the diffusion of heat, and wherever possible fresh air is introduced behind the radiators. In the entrance halls and other prominent positions the radiators are enclosed in handsome bronze grilles.

An independent dome-top boiler serves the circulation pipes supplying the lavatories and baths with hot water. This boiler is in the same room as the heating boiler, where also the circulating cylinder is fixed, and a circulating tank of the usual type is placed on the roof.

Sanitary Fittings.—All lavatory and kindred fittings were supplied by Messrs. Dent & Hellyer, Ltd., but in every case the fixing and plumbing work in connexion was executed by the general building contractors. The



Thames House: Part of Wrought and Cast Iron Balcony.

fittings generally are in white glazed fireclay, but a few single lavatories have whiteware basins with marble tops and skirtings.

Lifts.—The lift installation includes three passenger lifts supplied and fixed by the Otis Elevator Company, Ltd. Each lift has the capacity of 14 cwt., equal to the weight of about ten persons, and the car is arranged to travel at the maximum speed of 225 ft. per minute.

The guides are of steel T section, machined after rolling, and the car as well as the counterbalance is fitted with safety devices, intended to come into operation if excessive downward speed should be attained. Each lift is controlled from the car by a self-centring lever handle switch, enabling the attendant to run the car at maximum or slow speed at will.

The landing gates are equipped with electric contacts and auto-mechanical locks, preventing the car from being operated unless all the gates are closed, and also preventing the opening of any gate unless the car is opposite to it.

THE DRESDEN LABORATORY FOR ARCHITECTURAL ACOUSTICS.

By a decree of the Government Board of Education (Kultusministerium) of the Kingdom of Saxony, dated March 28, 1912, a Laboratory for Architectural Acoustics has been established in connexion with the Technical College (Technische Hochschule) in Dresden. Professor Dr. Heger, who for years has been engaged in examining concert-rooms, lecture halls, and churches as to their acoustic properties, is at the head of the Laboratory, which also contains a collection of instruments for acoustic experiments and researches. His proposals for improvements in that regard have in most cases proved quite satisfactory.

The Laboratory is intended to examine acoustic theories and to study the properties of building materials, especially to find co-efficients by which their acoustic qualities and their fitness for sound absorption can be numerically expressed. At the request of private persons and public corporations interested in concert-rooms, lecture halls, and churches, etc., the acoustic effect of these buildings will be examined either before or while they are being built, or while in practical use; if improvements are necessary, the Laboratory offers to work out the respective plans and to superintend their execution. Designs for new halls, etc., may also be submitted to the Laboratory for advice as to measures conducive to good acoustic results.

The result of the work achieved by Professor Heger before the opening of the Laboratory is laid down in the following fundamental rules, which will give directives for future work:—

The unsatisfactory acoustic effect of a room is generally caused by the fact that the sound arriving at the hearer's ear is disturbed by secondary sounds—*i.e.*, the echo or reflection of preceding sound-waves; the reason of bad hearing is, therefore, always a surplus of sound, not too little of it. (The same result was arrived at by Exner, Vienna.),

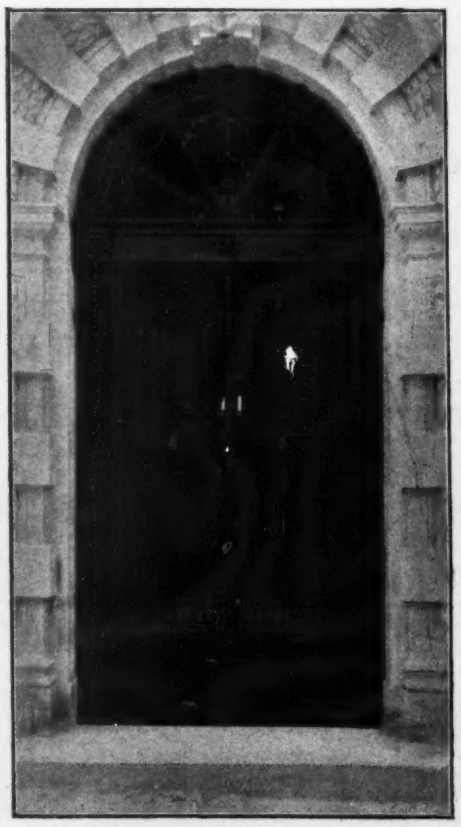
The echo is caused by the sound-waves being reflected from the boundaries of a closed room, its walls, ceiling, floor, etc.

Every surface struck by sound-waves travelling through the air absorbs a certain part of the sound energy; thus every spot in the boundaries of a room is in its part effective in causing an echo. The total amount of sound thus absorbed is independent of the angle of incidence.

The absorbing factor of a wall, a ceiling, etc., indicates the amount of sound energy reflected by them. For a wide opening immediately leading into the open air this factor is 1. (Tabine's unit of sound absorption.) It is possible to treat the surface of a wall in a manner as to obtain a factor of absorption approximating 1.

The desirable distinctness of hearing can be attained in rooms of every description by treating the walls, ceiling, etc., so as to produce a sufficient absorption of sound. For most purposes a factor of absorption between one-tenth and one-seventh may be considered sufficient.

In order to produce a powerful acoustic effect the surfaces in the neighbourhood of the source of sound ought to reflect as much sound as possible, while the rest of the room ought to absorb as much sound as possible. The measures conducive to this effect in every particular case can only be ascertained by an expert in architectural acoustics examining the individual properties of the room in question.



Thames House: Metal Doors.

The Dresden Laboratory, though only a short time in existence, has been requested to give advice for improving the acoustic qualities of concert-rooms, etc., at several places in Germany.

THE DISINTEGRATION AND PRESERVATION OF ANTIQUITIES.

F. RATHGEN states that the disintegration of stone objects and pottery can nearly always be traced to the presence of soluble salts, and the most effective way to preservation is to remove the salts by lixiviation. The water used may be for large objects, especially limestone blocks, pure tap water, spring or rain, but for the smaller, more valuable articles distilled water must be used.

Occasionally articles are met with which will not withstand lixiviation with water, and a trial test should be made in all cases. The water is changed frequently at first, and later at intervals of a week.

Illustrations are given in the author's paper of the manner in which the lixiviation, both of small and of large objects, is carried out in the laboratory of the Berlin Museum. After lixiviation and drying, limestone objects have their surface hardened by a treatment with "Fluat"; whilst the enamelled side of enamelled bricks is coated with molten paraffin, the excess of which is removed by rotating brushes. Cracked articles are bandaged before lixiviation, and afterwards are immersed in molten paraffin, being allowed to cool before the bandages are removed. In the case of coloured objects, treatment with "Fluat" will often fix and preserve the colour.

Superficial deposits of carbonate of lime on objects which are themselves acid-resisting are removed therefrom by lixiviation with very dilute hydrochloric acid, followed by thorough washing to remove all traces of the acid used. In other cases such deposits are removed by mechanical means.

Superficial deposits on burnt clay or pottery are removed by heating slowly in a drying-oven to 120 deg. C., and then introduced into a muffle-furnace heated slowly to 600 deg. C. After slowly cooling the articles are deprived of the deposits by a blast of air, by a soft brush, or by prolonged immersion in water, as the case may be.

Metal objects are usually cleansed best by an electrolytic reduction process, the metal object being either used as or connected with the cathode, and a weak electric current passed. The hydrogen liberated loosens the coating of rust or the like, which can subsequently be removed by brushing, after which the object is thoroughly washed in water and then dried. Iron objects are removed from the water and immersed directly in molten paraffin at 120 deg. C., whereby the water is evaporated and the object becomes coated with paraffin, the excess of which is subsequently removed. Bronze articles after cleaning are lacquered, and lead ones are coated with wax. Iron objects frequently contain chlorine compounds, which may completely disintegrate them; these compounds are to be removed by lixiviation in water, and then molten paraffin applied as described above. Tin objects must be kept

in the Museum at a temperature not below 18 deg. C., in order to prevent the formation of the so-called "tinpest." Wooden objects should be coated with paraffin immediately after recovery from the excavation, the fused paraffin being sprinkled or poured on to the object. The excess of paraffin is subsequently removed by the application of a small gas flame ½ in. long by $\frac{1}{16}$ in. diameter. The author describes two forms of air-tight cases in which objects can be preserved in an atmosphere free from moisture and carbon dioxide, the usual active agents in corrosion.

Plaster casts may be rendered washable by saturating the surface with wax or paraffin, or some chemical which renders it less permeable. Treatment of the cast with a solution of nitrocellulose, known as "zapon," yields the best results, and when this is done it may be regularly washed with soap and water and a soft brush, but the treatment should be repeated every year or two as the surface cracks. Instead of "zapon," acetylcellulose, known as "cellon," and "cellite" may be used. In the discussion of the foregoing recommendations as to casts, the dirtying of the same was attributed to tobacco-smoke as well as to dust and handling. Smoke stains may be removed by alcohol or petroleum spirit.

THE COST OF BUILDINGS.

AT the annual meeting of the National Association of Cement Users (U.S.A.) the following unit costs were presented of reinforced concrete buildings of various types as estimated by Messrs. Lockwood, Greene, & Co., architects and engineers, of Boston.

As this firm have had extensive experience in work of this description the data, of which a summary is given below (see Table A), are of more than ordinary value.

TABLE A.—COST OF REINFORCED CONCRETE INDUSTRIAL BUILDINGS.

Class of Building.	Area.	Number of Stories.	Floor Superload per sq. ft.	Cost (including foundation). Per sq. ft. of Floor Area.	Per cub. ft. of Contents.
	Ft. Ft.		Lb.	s. d.	d.
Machine shop	120 × 50	4	150	4 10½	4½
Machine shop	220 × 100	1	—	7 3½	5
Cartridge works	223 × 56	2	300	6 5½	5
Cotton mill	550 × 129	2	75	4 5	3½
Weaving shed	341 × 231	1	125	7 5½	3½
Storehouse	181 × 56	4	150	4 9½	3½
Storehouse	256 × 100	12	150	4 1	5½
		Average cost		5 7½	4·36

The foregoing costs include everything with the exception of heating and ventilation, lighting, and mechanical installations. The prices per square foot represent the total cost divided by the aggregate floor area.

Figures presented at a previous meeting of the same Association showed the average unit costs for twenty-one reinforced concrete buildings to be 7s. 2d. per square foot and 6·9d. per cubic foot. These structures were of varied character, the lowest costs having been 2s. 5d. per square foot and 3d. per cubic foot, and the highest costs 22s. 8d. per square foot and 1s. 7d. per cubic foot.

In a recent issue of the *Engineering Magazine* Mr. H. G. Tyrrell gives a digest of the comparative unit costs of industrial buildings in the United States, and although the rates for materials and labour in that country differ considerably from those prevailing in Great Britain, the subjoined figures will be found useful for the purposes of comparison.

Reinforced concrete factory buildings from one to five stories high and about 50 ft. wide are said to involve the following unit costs, exclusive of interior partitions, plumbing, heating, lighting, and lifts :—

Number of Stories.	Cost per sq. ft. of Floor Area.	Cost per cub. ft. of Contents.
	s. d. s. d.	d. d.
1	4 2 — 4 7	3½ — 4½
2	4 4½ — 4 9½	4 — 4½
3—5	4 7 — 5 0	4½ — 5

These prices apply to work done by contractors who are regularly engaged in reinforced concrete construction, and it is estimated that they would be exceeded by about 25 per cent. if the same work were performed by ordinary builders.

TABLE B.—COMPARATIVE COST OF REINFORCED CONCRETE AND TIMBER "MILL CONSTRUCTION" BUILDINGS.

Class of Building.	Area	Number of Stories.	Floor Superload per sq. ft.	Cost. Reinforced Concrete.	Cost. Timber.	Reinforced Concrete Cost More or Less than Timber. More.	Less.
	Ft. Ft.		Lb.	£	£	Per Cent.	Per Cent.
Factory	—	3	300	5,700	5,600	1·8	—
Factory	140 × 60	5	200	11,200	10,400	7·7	—
Factory	—	—	—	17,200	17,060	0·82	—
Factory	112 × 112	4	—	16,500	14,800	11·4	—
Factory	100 × 45	5	—	14,40)	10,400	38·0	—
Warehouse	155 × 20	9	—	39,200	42,500	—	7·8
Warehouse	94 × 32	6	2·0	8,600	7,800	10·2	—
Warehouse	120 × 100	4	—	12,7.0	12,300	3·25	—
Warehouse	200 × 100	8	—	26,200	23,400	12·0	—
Bakery	(60,000 sq. ft.)	—	80)	12,500	12,800	—	2·35
Shop	—	—	—	3,820	3,200	19·4	—
Shop	—	—	—	13,900	13,160	5·6	—

This point is illustrated by the above table (see Table B), based upon particulars compiled by Mr. J. P. H. Perry.

Considering the ultimate cost of the two classes of building, Mr. Tyrrell makes the following comparison, assuming the cost of a timber mill construction building to be 20,000*l.*, and of a reinforced concrete building to be 22,000*l.*, the dimensions and value of the contents to be equal :—

Annual Charges.	Timber.		Reinforced Concrete.	
		£		£
Depreciation	(1½ p.c.)	300	(½ p.c.)	100
Depreciation due to vibration	(1 p.c.)	200	—	—
Insurance { Building	(3s. 4d.)	160	(10d.)	44
Insurance { Contents of Building	(4s. 7d.)	220	(3s. 4d.)	176
Interest and Taxes	(7 p.c.)	1,400	(7 p.c.)	1,540
Total		£2,280		£1,860

Building types in order of their relative first cost are thus arranged by Mr. Tyrrell :—

(1) Steel frame (complete), fire-proofed, with brick curtain walls and timber flooring.

(2) Steel frame (interior), fire-proofed, with self-sustaining brick walls and timber flooring.

(3) Steel frame (complete), fire-proofed, with brick curtain walls and reinforced concrete flooring.

(4) Steel frame (interior), fire-proofed, with self-sustaining brick walls and reinforced concrete flooring.

(5) Reinforced concrete throughout.

(6) Steel frame (part interior), not fire-proofed, with self-sustaining brick walls and timber flooring.

(7) Timber (mill construction) throughout.

It is a noteworthy point that even in an important timber-producing country like the United States the cost of reinforced concrete buildings is sometimes less or only a little more than that of timber buildings.

This comparison is similar to another estimate of the same kind in our possession relative to the cost of timber and reinforced concrete construction in America, and shows that the maintenance charges for a building of the second type may reasonably be expected to be 420*l.* less than those for one of the first type on the stated cost basis.

If capitalised at 6 per cent., the saving of 420*l.* per annum is equivalent to 7,000*l.* Consequently a reinforced concrete building would not really cost in the long run more than a timber mill construction building, even on the supposition that the initial outlay were 35 per cent. greater.

Comparing fire-protected steel-frame construction with reinforced concrete, Mr. Tyrrell finds that in the United States, for floor superloads of 150 lb. per square foot and upwards, reinforced concrete is from 5 to 20 per cent. less costly; for lighter loads the cost of the two types is nearly equal; and in the case of very light loads and long spans steel framing is less costly than reinforced concrete, particularly in single-story buildings.

Table C gives the relative cost for different kinds of protected steel-frame and reinforced concrete buildings in America.

These figures appear conclusive as to the saving effected in the cases quoted, but it would no doubt be possible for a similar table to be prepared showing equal advantages for steel in respect of other buildings in the United States. Nevertheless, the comparison shows that reinforced concrete can often compete successfully with steel-frame construction.

It is to be regretted that figures of the kind quoted in this article are not available to show the relative cost of buildings in the United Kingdom.

TABLE C.—COMPARATIVE COST OF REINFORCED CONCRETE AND STEEL-FRAME BUILDINGS.

Class of Building.	Area	Number of Stories.	Floor Superload per sq. ft.	Cost. Reinforced Concrete.	Cost. Steel Frame.	Reinforced Concrete Cost More or Less than Steel Frame. More.	Less.
	Ft. Ft.		Lb.	£	£	Per Cent.	Per Cent.
Factory	132 × 66	6	200	12,130	13,950	—	13
Factory	100 × 50	3	200	5,000	5,600	—	10·7
Warehouse	190 × 140	10	200	50,000	56,000	—	10·7
Office	120 × 86	8	70	34,000	36,800	—	7·6
Office	—	17	70	—	—	—	4·0
Mill	—	3	—	55,640	57,280	—	2·8
Mill	320 × 60	5	—	18,000	17,460	3·1	—
Store (shop)	120 × 71	6	125	17,900	19,200	—	6·8
Hospital	—	6	—	158,600	164,600	—	3·6
Hotel	140 × 120	8	70	34,200	36,800	—	7·0
Hotel	—	11	70	58,000	60,800	—	4·6

DEMOLITION OF A TOWER BY EXPLOSIVES.

OWING to projected alterations on the property of the Port Talbot Railway and Docks Company, it recently became necessary to undertake the demolition of a power-house, together with a brick-built hydraulic accumulator tower 56 ft. high by 17 ft. square, the walls averaging 2 ft. 3 in. thick. Some large blocks of concrete, formed as foundations for boilers, engines, and machinery, had also to be removed.

Having regard to the proximity of the docks, it was necessary that operations should be conducted with the greatest possible care, and, as all the structures were of considerable thickness and built of concrete made with a view to permanent durability and strength, the work of removing them was one of considerable difficulty.

For the purpose of razing the accumulator tower the walls were drilled horizontally near the base along three sides. The holes were 1 ft. 9 in. deep, and were charged with ammonal explosive, 4-oz. and 6-oz. shots being employed on two opposite sides and 8-oz. shots on the third or falling side.

The total quantity of ammonal required to bring down this tower, the weight of which was fully 600 tons, was only 8½ lb., a fact illustrating forcibly the extraordinary power of modern explosives.

All the charges were connected by the means of Cordeau cable passing around three sides of the tower, and finished at the ends by electric detonator fuses coupled together and placed in connexion with an electric battery.

In order to obviate the risk of flying *débris* railway sleepers were stacked around the base of the tower, a device that proved quite efficacious after the firing of the charges.

The power-house walls also were demolished by blasting, the charges being fired by the Cordeau detonator.

A few days after the first series of operations the massive foundation blocks previously mentioned were destroyed in a similar manner. In every case the concrete was broken up into fragments of size convenient for removal from the site.

The operations were conducted throughout without any misadventure or injury to property, and to the entire satisfaction of the company.

CONSTRUCTION NOTES.

Reinforced Concrete Liquor Storage Tank.

In a paper submitted to the Institution of Gas Engineers, by Mr. S. Meunier, Engineer of the Stockport Corporation Gasworks, is given a description of his experience in securing watertightness in a concrete tank. That description, with the accompanying diagram, we subjoin.

An additional liquor storage tank and a boiler-house were constructed near the river bank, the boundary wall of which was, after being raised and strengthened, cleaned and repointed. They also immediately adjoin the sulphate of ammonia stores. The gable wall of this was taken down, and, after the liquor tank was completed, rebuilt upon the wall forming its west side. The liquor tank was put in on the reinforced concrete principle, after careful consideration of strengths, casts, and possible risks of leaking. The Kahn system was the one ultimately adopted, and from the illustration given herewith it will be seen that the walls, etc., are very light, being only 8 in. thick at the bottom and 4 in. at the top, while the tank is 19 ft. deep. The reinforcement, however, together with the arrangement of buttresses and the tying together of bottom, sides, and tops, makes the whole extremely strong. On completion it was left empty for a considerable time and kept under daily observation, and not the slightest sign of fracture or "giving" in any part was ever discovered.

The testing of the tank for leakage was also very carefully carried out. One or two leaks were found in the bottom (probably due to a little carelessness in rendering or defect in the mixing of the concrete), which varied somewhat in accordance with the height of the water in the adjacent river, but after being made right, and finding that the latter had ceased to create any effect, the tank was filled with water and left to stand, daily observations being made after the first week. It was found for a time that a small but definite loss took place, which was at last partially counteracted by floating dry and fine cement over the surface of the water; but a further difficulty then arose. There would be no diminution in level for a day or two, and then perhaps a drop of ½ in. a day for several days, interspersed with variations from zero to ¼ in. each. After many attempts to elucidate the cause of this varying trouble, it was decided to coat the top of the tank with a hot mixture of thick tar and sand. It was then found that the apparent loss of water was stopped, but for a few days only. However, by a repetition of the process, with an ultimate addition of a further two coats, a complete cure was established.

Reconstructed Wood.

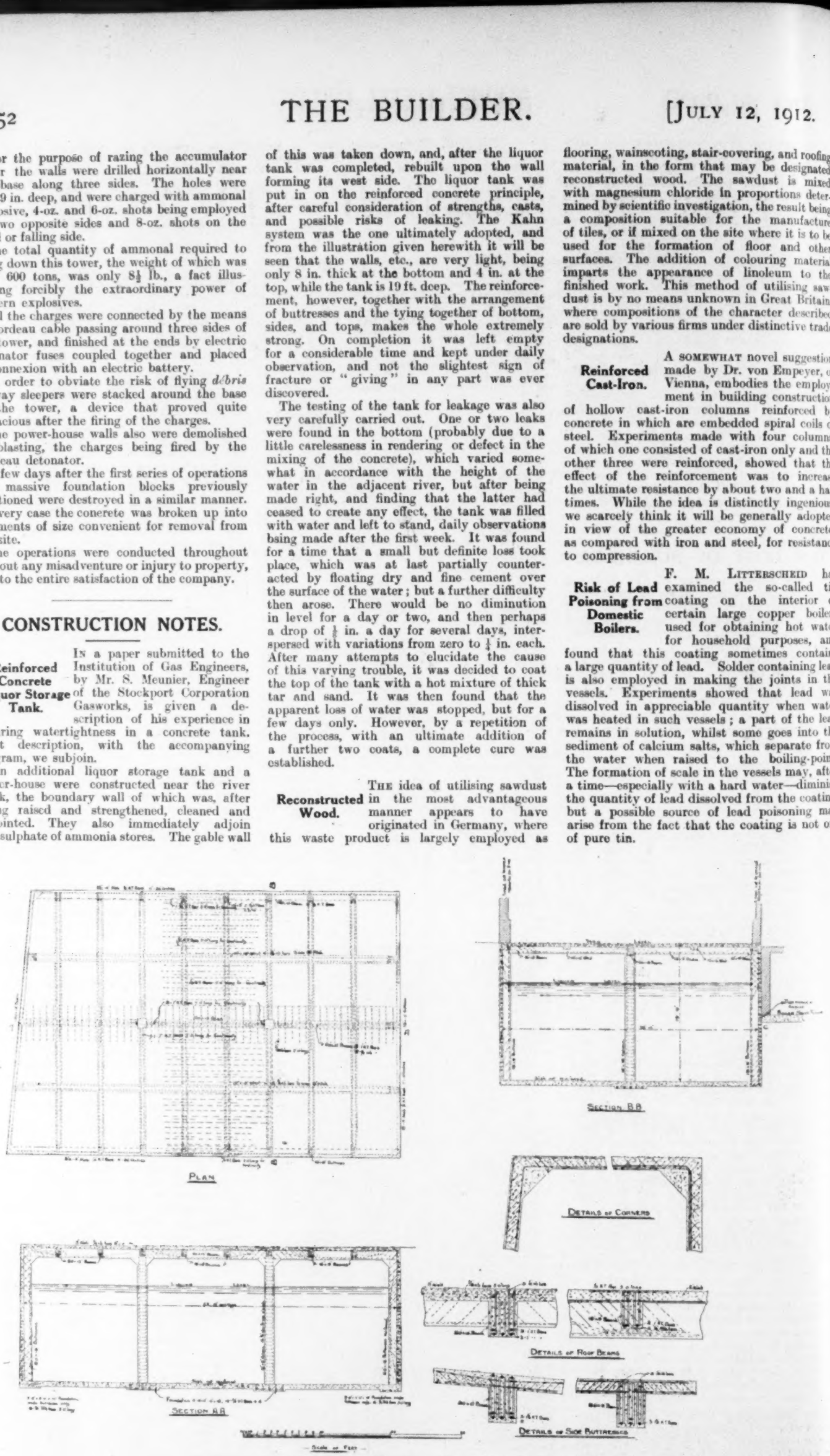
The idea of utilising sawdust in the most advantageous manner appears to have originated in Germany, where this waste product is largely employed as flooring, wainscoting, stair-covering, and roofing material, in the form that may be designated reconstructed wood. The sawdust is mixed with magnesium chloride in proportions determined by scientific investigation, the result being a composition suitable for the manufacture of tiles, or if mixed on the site where it is to be used for the formation of floor and other surfaces. The addition of colouring material imparts the appearance of linoleum to the finished work. This method of utilising sawdust is by no means unknown in Great Britain, where compositions of the character described are sold by various firms under distinctive trade designations.

Reinforced Cast-Iron.

A somewhat novel suggestion made by Dr. von Empeyer, of Vienna, embodies the employment in building construction of hollow cast-iron columns reinforced by concrete in which are embedded spiral coils of steel. Experiments made with four columns, of which one consisted of cast-iron only and the other three were reinforced, showed that the effect of the reinforcement was to increase the ultimate resistance by about two and a half times. While the idea is distinctly ingenious, we scarcely think it will be generally adopted in view of the greater economy of concrete, as compared with iron and steel, for resistance to compression.

Risk of Lead Poisoning from Domestic Boilers.

F. M. Litterscheid has examined the so-called tin coating on the interior of certain large copper boilers used for obtaining hot water for household purposes, and found that this coating sometimes contains a large quantity of lead. Solder containing lead is also employed in making the joints in the vessels. Experiments showed that lead was dissolved in appreciable quantity when water was heated in such vessels; a part of the lead remains in solution, whilst some goes into the sediment of calcium salts, which separate from the water when raised to the boiling-point. The formation of scale in the vessels may, after a time—especially with a hard water—diminish the quantity of lead dissolved from the coating, but a possible source of lead poisoning may arise from the fact that the coating is not one of pure tin.



The Stockport Gasworks: Liquor Storage Tank.

Mr. S. Meunier, Engineer.

THE BUILDING TRADE.

INSURANCE ACT: UMPIRE'S DECISIONS.

IN pursuance of the regulations made under sect. 91 of the Insurance Act the umpire has given a very large number of decisions as to various classes of workmen in respect of whom contributions are payable as being employed in insured trades for the purposes of unemployed insurance. The insured trades are contained in the sixth Schedule of the Act, and we have set out those decisions which appear to fall under the heading of "Building."

Workmen described as bricklayers, plumbers, painters, scaffolders, plasterers, and the labourers of each employed by millers and engaged wholly or mainly in the work of construction, alteration, repair, decoration, or demolition of buildings. Bricklayers, slaters, and the labourers of each similarly employed by a tramway company. Workmen employed by a spinning and weaving company as carpenters and mechanics wholly or mainly in the repair of buildings and machinery; apprentices to the above if employed wholly or mainly by way of manual labour under a contract with the employer if above the age of sixteen and not indentured apprentices.

Masons and tilers employed by builders' merchants in construction, etc., of buildings. Workmen engaged in the work of fixing stone or the preparation and dressing of stone (exclusive of slate) to finished dimensions for use in any insured trade under Schedule 6.

Bricklayers, carpenters, joiners, plumbers, painters, scaffolders, plasterers, and their labourers engaged wholly or mainly in the construction, etc., of buildings in connexion with businesses other than insured trades, Schedule 6.

Bricklayers and labourers employed by a firm of brickmakers engaged wholly or mainly in repairing or rebuilding kilns. Tile fixers in the same employ engaged in fixing tiles to new or existing buildings, also carpenters and plumbers engaged in repairing buildings.

Joiners in the employ of a borough council repairing internal fixed woodwork of school buildings. Workmen engaged in fixing stone or the preparation and dressing of stone (excluding slate) to fixed dimensions for use in any insured trade. Workmen employed by a firm of roofing felt manufacturers and roof contractors, and engaged in the work of fixing roofs of timber covered with felt and borne by wooden lattice girders resting on the walls. One decision is difficult to reconcile with the above. It is "persons engaged in lathing, dressing slates, gutters and spouting, slating, tiling, and rendering lead gutters, lead flashing and aprons and counter-flashing."

Masons preparing and dressing stone for monuments of a simple character, such as are ordinarily found in cemeteries, and fixing the same are excluded.

The question of workmen engaged by an urban district council in repairing sewers is held over for decision.

Looking through the above decisions it will be seen that the difficulty of ascertaining the liability of employers under this part of the Act is really occasioned by sect. 107 subsect. (2), which provides that "in determining any question as to whether any trade in which a workman is or has been employed is an insured trade or not, regard shall be had to the nature of the work in which the workman is engaged rather than to the business of the employer by whom he is employed."

Now, when the Insurance Bill was introduced the impression was certainly conveyed that unemployment insurance was in the nature of an experiment, which was to be put to the test in a few specified industries. The above subsection has extended the operation of the Act in a most extraordinary way, and this particular insurance is in consequence made more irksome than the general health insurance. As will be seen from the above decisions, any employer carrying out a process which is deemed to come within the trades mentioned in Schedule II. is liable under penalty to pay contributions. This involves the same kind of uncertainty that was introduced in the Workmen's Compensation Act of 1897, and which experience proved to be so inadvisable.

In the building trade some sort of principle can be extracted that any person wholly or mainly engaged in the construction, alteration, repair, decoration, or demolition of buildings is to be insured, but in other trades, such as "mechanical engineering," the difficulty of determining who has to be insured is greater. But even in the building trade, difficult points arise. For instance, take the decision quoted above, "workmen engaged in the preparation of stone and dressings (excluding slate) to fixed dimensions in connexion with any trade set out in Schedule 6." What heading in Schedule 6 does this come under? The definition of "building" is the construction, etc., of buildings, "including the manufacture of any fittings of *wood* commonly made in builders' workshops or yards." We can see no heading which would include the dressing of stone to fixed dimensions apart from fixing the same in position. By sect. 101 subsect. 6 these decisions of the umpire, moreover, appear to be conclusive, yet the points he has to decide are very similar to those which have caused such difficulty both in the lower Courts and in the Court of Appeal and the House of Lords. This decision by departments is a new modern departure, and it may save litigation, but it imposes "burdens grievous to be borne" on individuals who can have no redress.

THE SELECTION OF BUILDING MATERIALS.

IN days when the transport of materials from place to place in one country or from one country to another was costly and troublesome, building materials were primarily responsible for the development of architectural styles, or for the adoption of certain styles in different countries and localities.

It is true that materials were sometimes brought from great distances in ancient days, as, for instance, for the building of King Solomon's temple; but the almost universal practice was for architects to employ such materials as could readily be obtained in the immediate neighbourhood of the building to be erected.

One happy result following the employment of indigenous building materials was the harmony existing between buildings and their surroundings.

Examples of this harmonious association are to be found in many parts of England. Nothing is more charming than the timber-built cottage or country house in a well-wooded district; nothing is more appropriate than the warm-toned red brick house in a district where the whole landscape gives evidence of the red earth providing material for the bricks; and nothing more fitly reflects the spirit of a rocky and mountainous region than the solidly-built stone house.

With the increase and multiplication of transport facilities the building materials of the entire world are placed at the disposal of the local architect, with the result that characteristic architecture is far less evident than formerly in individual districts of this and other countries.

That the same kind of change is taking place in Canada is shown by a recent article written by Mr. Philip J. Turner, F.R.I.B.A., of McGill University, on the "Use and Selection of Building Materials." Adverting to this point, Mr. Turner says: "We see stone used in brick districts, brick in stone, and many other such anomalies, apparently for no other reason than that the owners like to be ostentatious and to show they have plenty of money to spend, instead of having a well-designed, unobtrusive building in keeping with its surroundings."

The article to which we refer contains many useful hints on the use of familiar materials, such as stone, brick, and wood, and quite deserves consideration by the profession, as the following references will make clear to our readers.

In the selection of stone durability is obviously a most important point, as evidenced by cases adduced by Mr. Turner.

For instance, the limestone selected by a Commission in 1839 for the Houses of Parliament has proved to be particularly unsuited to the atmosphere of London, although similar limestones have been largely used from early times in the purer air of Yorkshire and the adjoining counties with satisfactory results.

A more happy experience is furnished by the choice of Portland stone for the building of St. Paul's Cathedral and by the precaution of Wren in forbidding the use of any block of stone that had not been seasoned for many months.

But we are reminded further that the numerous variations in the characteristics of building stones make the task of selecting material for any given work, or of adapting the work to the available material, one that often requires serious consideration.

If the material has already been selected style and detail must be adapted to its character. Thus, if it is tough and difficult to work it would be absurd to adopt a style requiring wrought stone in large quantities; if it is also without cleavage or distinct bedding planes even coursed rubble work might be out of the question; and if the beds are only a few inches thick massive effects requiring large stones cannot be attempted.

Again, assuming the stone to be soft and perishable, close joints and smooth finish should prevail, and projections likely to catch water should be avoided unless executed in stone of harder description.

In the endeavour to treat stone sculpturally by undercutting in the same way that he had followed in his wood carving Grinling Gibbons did violence to the true and essential qualities of the material, which in course of time fell to pieces.

Sandstone mouldings must be bold and large, and granite calls for broad and simple treatment without over-elaboration in sculptural details.

Marble in its fulness of grain is the exact opposite of granite, and is capable of receiving the most delicate mouldings and the most exquisite finish in carving. As an illustration of the appropriate uses of marble in architecture Mr. Turner cites the altar in the Church of Santa Maria dei Miracoli, Venice, where this material is employed in three characteristic ways:—(a) In wall panels, the figure of the marble being utilised as decoration; (b) in delicate carving; (c) in mosaic work.

In discussing timber, Mr. Turner deals more particularly with the varieties of wood available in Canada, but many of his remarks are worthy of attention by young architects in every country.

The toughness and density of timber have necessarily to be considered in determining the character and size of details and mouldings. Hardwoods permit sharp thin lines, and small and delicate mouldings that would be impracticable in softer materials.

Certain varieties of wood, like some kinds of marble, are characterised by grain and figure rendering them particularly suited to decorative purposes in the form of panels simply treated with few mouldings.

The possibilities of brick in architecture are great and varied. The material is one lending itself to pleasing effects by the use of different shades of brick. For example, grey or purple brick for the quoins, arches, and bands of a building, in conjunction with red brick for the general wall surfaces, makes a happy combination and gives interest, provided the colour contrasts are not too marked.

The tone of brick walls may be uniform or varied and the texture fine or coarse. With a fine texture the tone should be uniform, and variety of tone is pleasing where the texture is coarse.

Bricks of special dimensions, such as the Roman brick, are often useful for variation of treatment, and cut or rubbed brick can be employed with very pleasing effect, but, as Mr. Turner rightly says, work of this kind should always be framed by stronger material, and not applied in structural forms lending, or appearing to lend, support to stronger material, whether brick or stone.

CONCRETE-MIXERS:
THE WHALLEY MIXER.

PATENTED by Mr. Whalley, of Blackpool, this concrete-mixer is supplied by Messrs. Bristowe & Co., Ltd., of Westminster. The illustration on this page shows the machine, which can be placed on any convenient support or supplied with carriage and wheels.

It comprises a stationary pan with a vertical shaft having radial arms which are fitted with stirrers. The pan is cast with brackets for the side standards and bridge carrying the gear for rotating the central shaft and stirrers in connexion therewith. At the front of the pan is a discharge valve for the delivery of mixed concrete, and at the back of the machine is a hopper for feeding materials into the pan.

The action of the stirrers is such that while tending to move the materials towards the periphery of the pan the process of mixing is thoroughly completed before the contents of the pan could escape through the discharge outlet, even if the valve should have been left open by accident or carelessness.

The only parts of the machine subject to appreciable wear are the lower extremities of the stirrers, which can be detached readily and renewed at comparatively trifling cost.

The machine is made in three sizes with the capacity of 7½, 13½, and 18 cub. ft., mixing the same number of cubic yards per hour respectively. The largest machine is stated to be capable of mixing 1 ton of concrete within two minutes, 3·6 horse-power being the maximum power required for driving the machine.

CONTRACTORS AND THE INSURANCE ACT.

ON Tuesday a meeting of contractors was held at the Holborn Restaurant to consider the position arising out of the National Insurance Act. The meeting, which was very well attended, included representatives of the following amongst other firms:—Messrs. Airds, Ltd., Pauling & Co., Ltd., the Metropolitan Amalgamated Railway Carriage and Wagon Company, Ltd., C. J. Wills & Sons, William Griffiths & Co., Ltd., Robert McAlpine & Sons, Louis P. Nott, H. H. Nowell, Perry & Co. (Bow), Ltd., Alfred Thorne & Sons, Pethick Dix & Co., Thos. Wrigley, G. Percy Trentham, F. & H. F. Higgs, W. & J. R. Watson, Ltd., George Law, Rowley Bros., James Dickson, H. J. Harding, Chas. Wall, Ltd., Tabor Trego & Co., Ltd.

Mr. W. Griffiths, representing the National Health Commissioners, explained Part I. of the Act relating to health insurance; and was afterwards questioned at considerable length by those present. He explained that an employer employing over 100 hands could make arrangements for bulk stamping. If the workers agreed to leave their cards with the employers the cards could be stamped quarterly, but full facilities must be given for workmen who left before the end of the quarter to get their stamped cards.

The following were some of the more interesting questions put to Mr. Griffiths:—

Q.—A contractor may have 500 or 600 men working for him during the quarter. At the end of the quarter perhaps only sixty are still in his employ. What advantage therefore is the bulk stamping arrangement for him? A.—If it is no advantage you will not adopt it.

Q.—When 500 or 600 men are employed on a work, will it not be physically impossible to go round and put the stamps on at pay-time and cancel them? A.—You can do that with an indelible stamp; but with all respect I think you will find that the men will not be dying to keep their cards, and that there will be no difficulty in arranging with the employee.

Q.—Supposing a man is discharged in the week for being drunk? A.—At the time of paying the wages you must put the stamp on the card.

Q.—On large works navvies come for a job and are put on. Often they have been tramping and have no money, and at breakfast-time they ask for a "sub." Is that "sub" the first payment of wages? A.—It appears to me to be so. It is actually a payment of wages.

Q.—The ganger puts such a man on, not knowing what sort of a man he is, and after finding out what he is discharges him. Is it the correct meaning of the Act in such a case that the employer pays 3d. and the man 4d.? A.—I cannot see any possible reason for it not being so. The first employer in the week is responsible, subject to any arrangement he may make with the man's other employers. I will make a note of it and let the Commissioners know of the practice.

Q.—A contractor may get four or five men of the kind in a week, and so would have to pay four or five contributions and yet not get a week's work done? A.—There is no doubt about it. If the contractor is the first employer in the week, or the only employer, he has to pay the contribution.

Mr. Robert Bogan (of the Board of Trade Labour Exchange) then explained Part II. of the Act, and said that the Government had appointed an officer called "the Umpire," who was to give the final decision as to whether any men or class of men were in or out of the Act. It was the work of the workman and not the business of the employer which was the gauge of whether a man came under Part II. of the Act. As an illustration, a firm of printers might employ 500 printers who would not be liable to be insured, but if they employed one engineer to see to the machinery that one man must be insured.

Answering questions, Mr. Bogan said to meet the difficulty of halfpennies the employer could put a 3d. stamp on the card one week and a 2d. stamp the next week. When a man left his employment he would lodge his book with the Labour Exchange, and the worker would be given a receipt, and the production of that receipt would be equivalent to the production of the book.

Amongst the more striking questions addressed to Mr. Bogan were the following:—

Q.—A man leaves his employment, lodges his book at the Labour Exchange and gets a receipt. He goes on tramp and gets work 100 miles away, but in the meantime has lost his receipt? A.—Before that man can claim any benefits under the Act he has to comply with certain well-defined regulations. A man must call every day at the Labour Exchange and sign the labour book. The policy of the Labour Exchanges is to discourage the blind tramping for work. It is illegal for the employer to have in his employ any workman in the insurable trades without having received from that workman his unemployment book.

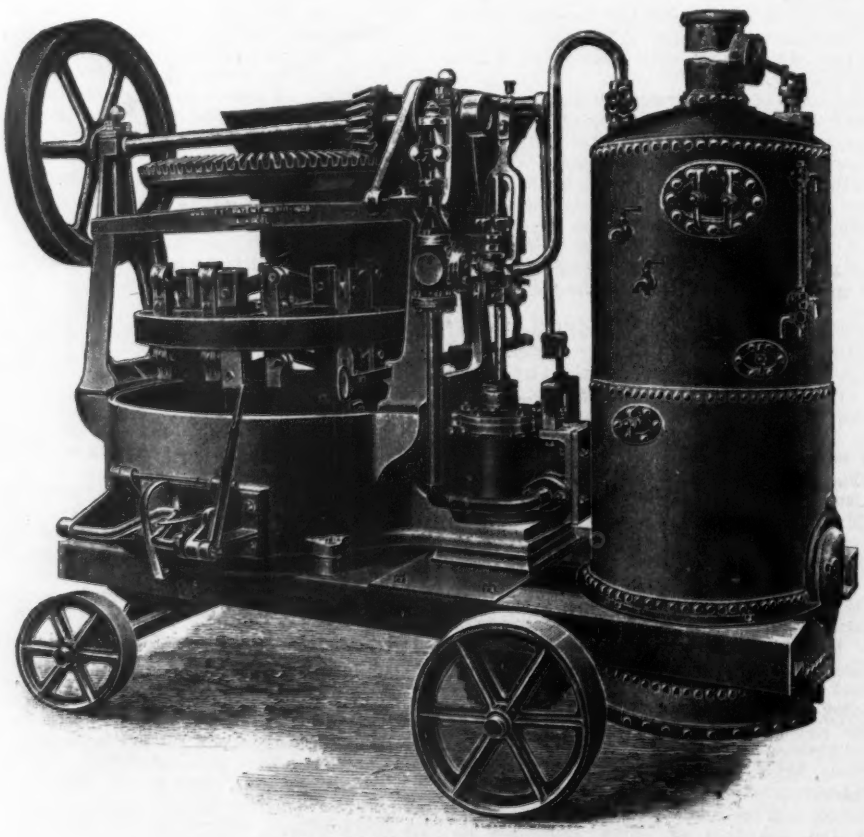
Q.—Contractors often have a big delivery of bricks or girders, and so on, and the foreman goes out and picks up men to unload, and perhaps pays them 1s. each. Has the contractor to pay the unemployment insurance? A.—Yes; but I would point out that a telephone message to the Labour Exchange would bring the men.

Mr. Newall pointed out that the framers of the Act seemingly had failed to grasp the conditions of contractors. They carried out great waterworks, with aqueducts over perhaps 40 miles of country. There were no Labour Exchanges there, and the gangers were the only men in charge. The ganger might have 100 men on the Saturday and on the Monday find that half had gone and new men had turned up without cards.

Mr. Bogan replied that the contractor must not engage such men, but modified his reply by pointing out that the Act said the man must hold or at once apply for an unemployment book. If the man had not a book it would be the contractor's duty to tell him to get one.

Mr. Bogan was also questioned as to the position of the contractor with regard to sub-contractors, and the case was put of a builder sub-letting the paperhanging. He said that the point was whether the contractor had the exclusive right to a man's services. Supposing the sub-contractor had men working for him, could the substantial contractor dismiss them. If not, then the sub-contractor would be responsible for the men.

A small Committee was subsequently appointed for the purpose of dealing with any points which arose affecting contractors.



The Whalley Concrete-Mixer.

Messrs. Carter & Co., Ltd., tile manufacturers of Poole, recently called a meeting of their employees regarding the Insurance Act, when Mr. Charles Carter, who presided, informed the employees that it was the intention of the directors to pay the employees' contribution as well as the employers'. The announcement was received with much gratification.

UNEMPLOYMENT INSURANCE.

MR. RENDALL asked the Secretary to the Treasury whether a timber merchant doing no building, supplying the trade with English timber, and converting the timber from logs into boards, planks, etc., falls under Part II. of the National Insurance Act.

Mr. J. M. Robertson, in reply, points out that decisions as to what class of workmen is included in the list of insured trades for the purposes of Part II. of the Act rests with the Umpire appointed under sect. 89. On June 24 the Umpire decided as follows:—"Contributions are not payable in respect of workmen employed by timber merchants owning or working sawmills and engaged wholly or mainly in the work of converting timber or logs into planks, boards, or scantlings."

THE BRICK INDUSTRY IN BELGIAN CONGO.

THE Belgian Colonial Minister has received a report concerning the state of the brick industry in the Katanga district, in which it is stated that at the end of 1911 there were in the district named twelve brick yards or works, almost exclusively owned and operated by foreigners, especially Italians. The bricks there made are 24 centimetres (9·46 in.) long, 11·5 centimetres (4·53 in.) wide, and 8 centimetres (3·15 in.) thick, and weigh about 4 kilograms (8·8 lb. av.) each, so that for a cubic metre of masonry 360 bricks are necessary. (275 per cubic yard). Bricks are slop-moulded by hand; also made in hand-presses and by machinery. The first-named method is, of course, very slow. For preparing the clay and moulding ten to twelve black labourers, working together, turn out per day about 1,200 bricks of the dimensions above given. With a hand-press the same crew can produce 1,800 to 2,000 daily. One of the yards gets out about 15,000 bricks per day. In this case a European foreman and twenty black natives constitute the working force. The price runs according to the supply and demand, as well as the quality, hand-made bricks bringing better price than machine-made. In the dry season machine-made bricks bring 45 to 50 francs ($8·73 to $9·70) per 1,000; in the rainy season 50 to 60 francs ($8·73 to $11·64). These prices are for delivery at the yard. The cost of transportation adds about 20 to 30 francs ($3·88 to $5·82) per 1,000.

A comparison of the cost of construction in brick and in corrugated sheet iron in Elizabethville has been made, with the following results: A cubic metre of brick masonry costs about 70 francs ($13·58), of lime mortar 80 francs ($15·52), and of cement 90 francs ($17·46).

An ordinary dwelling constructed of corrugated iron costs for labour and material an average of 17 francs per square metre ($0·31 per square foot).

It would pay to send simple hand-presses there, fitted to produce the size above given. Repressing is not practised.

GENERAL BUILDING NEWS.

NEW SCHOOLS, BEDMINSTER.

The new schools of Holy Cross have been erected from the designs of Mr. John Bevan, architect, and the buildings will accommodate 200 boys and girls, and 150 infants. The builder was Mr. C. Bryer, jun., of Bridgwater.

PRUDENTIAL OFFICES, GRIMSBY.

The Prudential Assurance Company's new offices in Victoria-street have been designed by Mr. Paul Waterhouse, F.R.I.B.A., architect, of London. The contractors were Messrs. Hewins & Goodhard, of Grimsby, and the clerk of works was Mr. Dawson.

TRADE NEWS.

Under the direction of Mr. W. Griffiths, architect, Llanelly, the "Boyle" system of ventilation (natural), embracing Boyle's latest patent "air-pump" ventilators and air-inlets, has been applied to Pontyates Church, Pontyates.

The Clydach-on-Tawe Mission Church is being ventilated by means of Shorland's patent concealed extract ventilators and hygienic inlet ventilating panels by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

AT the last meeting of the London County Council the following applications under the London Building Acts were dealt with. (The names of the applicants are given in parentheses):—

Lines of Frontage and Projections.

Brixton.—Erection of porches to Nos. 19A and 19B, Rhodesia-road, Clapham (Mr. J. Mayo).—Consent.

Camberwell, North.—Erection of a bay-window at No. 134, Camberwell-road, Camberwell (Mr. F. E. Halford for the Church of England Temperance Society).—Consent.

Clapham.—Erection of an ornamental facia, illuminated signs, two figures, and four arc lamps at No. 311, Lavender-hill, Battersea (Messrs. Bignold & Idle for the Globe Cinema Company).—Consent.

Hammersmith.—Erection of a building on the western side of Paddenswick-road, Hammersmith, southward of the Seven Stars Hotel (Messrs. Leslie Davies & Co.).—Consent.

Holborn.—Omission of a gutter and down-pipe to a facia in front of Nos. 29, 30, and 30A, Eagle-street, Holborn (Messrs. Whitby Brothers).—Consent.

Islington, North.—Erection of a projecting clock at Nos. 53 and 55, Seven Sisters-road, Holloway (Greenwich Time, Ltd., for Messrs. Mulholland).—Consent.

Lewisham.†—Five temporary buildings at No. 276, Brockley-road, Lewisham, next to Arabin-road (Messrs. Thompson Brothers).—Consent.

Norwood.—Erection of bay-windows, porches, and gables to sixteen houses on the western side of Rosendale-road, Dulwich (Mr. A. H. Williams).—Consent.

St. George, Hanover-square.—Projecting basement at No. 278, Vauxhall Bridge-road, Westminster (Messrs. Lovegrove & Papworth).—Refused.

Strand.—Two projecting signs at No. 40, Sackville-street, Piccadilly (Berliet Motors).—Consent.

Strand.—Erection of two projecting arc lamps at the Carnaby-street electric-light station, St. James, next to Ganton-street and Marshall-street (St. James and Pall Mall Electric Light Company, Ltd.).—Consent.

Westminster.†—Erection of bay-windows, balconies, and a hood to a building to abut upon Vincent-square, Vane-street, and Rochester-row, Westminster (Mr. W. E. Hazell for the Empire Hospital for Paying Patients, Ltd.).—Consent.

Woolwich.—Erection of bay-windows to four houses on the southern side of Glenlyon-road, Eltham Park (Mr. J. J. Bassett for Lord Rowallan).—Consent.

Width of Way.

Hackney, South.—Erection of an addition to a mission building on the northern side of High-street, Homerton (Mr. J. S. Alder for the Rev. Stanley Power).—Consent.

Hammersmith.—Erection of an addition at the rear of the "Beehive" beerhouse, Great Church-lane, Hammersmith (Mr. A. P. Killik for Messrs. Charrington & Co., Ltd.).—Consent.

Width of Way and Line of Frontage.

Islington, North.—Erection of a building and external iron staircases at Nos. 1 and 2, Wedmore Works, Eaton-grove, Holloway (Mr. H. Goodchild for Mr. F. Cousins).—Consent.

Width of Way and Space at Rear.

Whitechapel.—Building between Nos. 8 and 10, Great Garden-street, Whitechapel (Mr. D. Goldberg).—Refused.

Width of Way, Line of Frontage, and Space at Rear.

Lambeth, North.—Erection of a building on the northern side of Exton-street, Lambeth, to abut also upon the eastern side of Secker-street (Mr. W. Cave).—Consent.

Lines of Frontage and Construction.

Paddington, South.—Erection of a temporary showcase on the forecourt of No. 146, Queen's-road, Bayswater (Mr. G. S. Pipe for Mr. F. E. Pratt).—Consent.

Strand.†—Iron and glass shelter in front of the entrance to No. 51A, New Bond-street (Mr. A. E. Keeble for the Grosvenor Gallery, Ltd.).—Refused.

Line of Frontage, Space at Rear, and Projections.

Kensington, North.—Addition at the rear of No. 9, Lansdowne-road, Notting Hill-gate, next to Hanover-terrace (Mr. P. M. Horder).—Consent.

Lines of Frontage and Cubical Extent.

St. George, Hanover-square.—Building abutting upon Grosvenor-road, Caledonia-street, and Glasgow-terrace, Pimlico (Messrs. L. G. Mouchel & Partners, Ltd.).—Consent.

Cubical Extent and Construction.

Kensington, South.—Construction of an iron and glass lift enclosure in the area on the southern side of the division at the rear of Block 2 of Harrod's Stores, Brompton-road (Mr. C. W. Stephens).—Consent.

Cubical Extent.

Holborn.—Addition to abut upon Cheniés-street and Alfred-place, Holborn, at the premises of Messrs. Caley & Sons (Mr. John Slater for Messrs. Caley & Sons).—Consent.

Alteration of Buildings.

Hampstead.—Alterations at No. 9, Canfield-gardens, Hampstead (Messrs. Done, Hunter, & Co., for Mr. W. H. Cordy).—Consent.

Kensington, North.—Alterations at No. 19, Bassett-road, Kensington (Mr. E. Stevens for Mrs. A. Lee).—Consent.

Westminster.—Additional story at No. 32, Old Queen-street, Westminster (Mr. H. J. Appleton).—Consent.

Formation of Streets.

Lewisham.—Roadways of new streets for carriage traffic upon the Forster estate leading out of the eastern side of Bromley-road, Catford (Mr. J. Watt).—Consent.

Wandsworth.†—Formation and laying-out of three new streets for carriage traffic upon a site on the eastern side of Valley-road, Streatham (Mr. E. B. I'Anson for the South London and Streatham Estates, Ltd.).—Consent.

Woolwich.†—Formation or laying-out of a new street for carriage traffic on the eastern portion of the Eltham Park Estate, Eltham (Mr. R. Stewart).—Consent.

Woolwich.†—Formation of new streets for carriage traffic on the north-eastern portion of the Eltham Park Estate, Eltham (Mr. R. Stewart).—Consent.

Uniting of Buildings.

City of London.—Uniting of Nos. 58, 59, and 60, Paternoster-row, and Nos. 61 and 63, St. Paul's-churchyard, City (Messrs. J. Lyons & Co., Ltd.).—Consent.

Marylebone, East.—Uniting of Nos. 122, 124, 126, and 128, Oxford-street, St. Marylebone, and to the provision of a rolling shutter to an opening exceeding the statutory size between the ground floor of No. 126, Oxford-street and the passage at the rear (Mr. J. Slater for Messrs. Bourne & Hollingsworth).—Consent.

Newington, West.—Uniting of Nos. 230 to 242, Tabard-street, Southwark, with a proposed building southwards, by means of an opening at the ground-floor level (Messrs. Dewrance & Co.).—Consent.

St. Pancras, East.—Formation of an opening of greater size than specified in the said section in a division wall at a motor garage, Rochester-mews, Camden Town (British Electrical Federation, Ltd.).—Consent.

Whitechapel.—Openings in the party wall between No. 60, Upper East Smithfield and the adjoining building in Glasshouse-street (British-American Tobacco Company, Ltd.).—Consent.

The recommendations marked † are contrary to the views of the Metropolitan Borough Councils concerned.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ANDOVER.—School; Mr. A. L. Robert, The Castle, Winchester.

Basingstoke. — Catholic church (4,000*l.*): Messrs. T. Abell & Sons, Rolles-street, Exmouth.

Baxenden.—Additions to works for the Nicholls Chemical Company.

Birmingham.—Business premises, High-street, for the Industrial Co-operative Society, Ltd.

Bolton.—Cotton store, Adelaide-street, for the Tootal, Broadhurst, Lee Company, Ltd., cotton goods manufacturers, Sunnyside Mills, St. Helen's-road, Daubhill, Bolton. Additions to works, Mortfield-lane, for Messrs. Cross & Co., Ltd.

Bradninch.—Ten houses, Ladder Park, for the Hele Paper Company, Ltd., near Cullompton, Devon.

Bridge of Weir.—House (2,250*l.*); Mr. James Miller, architect, 15, Blythswood-square, Glasgow.

Bridlington.—Twenty-five houses, Watson's Balk; Mr. E. R. Matthews, Surveyor, Town Hall, Bridlington.

Chelmsford.—Fifty-five houses; Mr. C. Brown, Surveyor, Town Hall, Chelmsford.

Coventry.—Municipal buildings (60,375*l.*): Messrs. H. Wilcock & Co., builders, 53, Darlington-street, Wolverhampton. Swimming-baths; Mr. J. E. Swindlehurst, Surveyor, Town Hall, Coventry.

Crocketford.—School (3,000*l.*); Messrs. Barbour & Bowie, architects, 53, Buccleuch-street, Dumfries.

Dalbeattie.—Additions and alterations to schools (2,500*l.*); Messrs. Barbour & Bowie, architects, 55, Buccleuch-street, Dumfries.

Deardens.—Wesleyan church; Messrs. John Inman & Sons, builders, Bury.

Desborough.—Instruction centre; Mr. J. T. Blackwell, architect, 53, High-street, Kettering.

Doncaster. — School (2,500*l.*); Managers, Yorks Institution for the Deaf, Doncaster.

Donnington.—Six houses (1,000*l.*); Mr. G. Barnsdale, builder, Market-place, Donnington.

Drumchapel.—Smallpox hospital; Surveyor, Dumbartonshire County Council.

Dundee.—School (4,000*l.*): Dundee School Board; architect to be appointed. Extensions to Harris Academy, Tay-square (10,000*l.*); Mr.

* See also our list of Competitions, Contracts, etc., on another page.

J. H. Langlands, architect, 31, Murraygate, Dundee.

Dunfermline.—Additions to Central Library (2,200*l.*); Mr. James Sheares, architect, 3, Bonner-street, Dunfermline.

Duns.—Alterations to gasworks (2,000*l.*); Secretary, Duns Gas Company.

Dunscar (near Bolton).—Picture hall (2,000*l.*); Mr. H. Booth, architect, 42, Regent-street, Haslingden.

East Cowes.—Liberal club, York-avenue; Mr. S. E. Tomkins, architect, High-street, Newport, Isle of Wight.

East Kilbride.—Church halls, Parish Church (1,850*l.*); Mr. D. A. Robertson, East Kilbride.

Edinburgh.—Six houses, Murray Field-gardens, for the Murrayfield Real Estates Company, Ltd. Extensions to College of Agriculture (6,000*l.*); Mr. T. P. Marwick, architect, 43, York-place, Edinburgh. Extensions to school of cookery, Atholl-crescent (4,000*l.*); Mr. Ramsay Taylor, 140, Princes-street, Edinburgh. Church, Roxburgh-place; Trustees, Lady Glenorchy's Church.

Elworth.—Enlargement of United Methodist Sunday-school; the Trustees.

Exeter.—Headquarters for the Devon Royal Garrison Artillery (3,000*l.*); Messrs. Ellis, Son, & Bowden, architects, Bedford-circus, Exeter.

Falkirk.—Extensions to bakery (3,500*l.*); Mr. J. G. Callender, Royal Bank-chambers, Falkirk.

Folkestone.—Plans have been passed for alterations and additions to the Railway Hotel, Coolinge-lane, for Messrs. Nalder & Collyer, Ltd., Croydon; Messrs. Bromley & Dahl are the architects. Offices and showrooms in Dover-road, for the Folkestone Co-operative Society; Mr. G. H. Camburn, architect.

Gilfach.—Five hundred houses; Mr. Beddoe Rees, architect, Cardiff; Welsh Garden Cities, Ltd., builders.

Gilmerton.—School (5,000*l.*); Mr. James Inch Morrison, 21, York-place, Edinburgh.

Glasgow.—Workshops and stores, Haiston-place, for the Scottish Co-operative Wholesale Society, Ltd., 95, Morriston-street, Glasgow. Conversion of 137, Argyle-street into picture theatre; St. Enochs' Picture Palace, Ltd., London. Offices, St. Vincent-street, for the Phœnix Assurance Company, Ltd. Picture-house, Camphill; Mr. Thomas Bair, architect, 134, Bath-street, Glasgow. Bottling store, Great Eastern-road, for Messrs. A. G. Barr & Co., Ltd., mineral water manufacturers (3,000*l.*); Mr. James Callender, Royal Bank-chambers, Falkirk. Extensions to bakery, Princes-street (4,000*l.*); Messrs. Boston, Menzies, & Morton, architects, 11, William-street, Greenock. Picture theatre, Gairbraid-street (2,200*l.*); Mr. A. V. Gardner, architect, 146, Bath-street, Glasgow. Extensions to Kelvindale Paper Mills (2,500*l.*); Mr. James Carruthers, architect, 147, Bath-street, Glasgow. Works for Messrs. Stewart & Lloyds, Ltd., tube manufacturers, 41, Oswald-street, Glasgow (7,000*l.*). Extensions to Sidney-street Engineering Works for Messrs. John Deas & Co. (2,500*l.*); Messrs. Miller & Black, architects, 58, Renfield-street, Glasgow. Halls, London-road, United Free Church (2,000*l.*); Messrs. Salmon, Son, & Gillespie, architects, 53, Bothwell-street, Glasgow.

Glossop.—Schools (7,725*l.*); Mr. T. Haynes, Surveyor, Town Hall, Glossop.

Gravesend.—Extensions at works, Clifton Marine-parade, for the Imperial Paper Mills, Ltd.

Greenock.—School, Finnart-street (12,000*l.*); Mr. W. R. Glen, 144, St. Vincent-street, Glasgow. Proposed baths and washhouses, Ann-street; Mr. A. J. Turnbull, Master of Works, Burgh Hall, Greenock.

Halifax.—Picture theatre (10,000*l.*); Mr. W. W. Longbottom, George-street, Halifax.

Haltwistle.—Laundry for the South Tyne Laundry Company.

Hastings.—All Saints' School; Mr. F. Plowman, architect, 35, Havelock-road, Hastings.

Heckmondwike.—Extensions to Heckmondwike Co-operative Society's central stores; Mr. H. Stead, architect, Kaye-street, Heckmondwike. Warehouse, Station-lane, for the Great Northern Railway Company.

Hexham.—Additions to Corn Exchange (2,000*l.*); Messrs. Cackett & Burns Dick, architects, Pilgrim House, Pilgrim-street, Newcastle.

Holden Wood (near Haslingden).—Bleach works; Mr. W. H. Booth, architect, 42, Regent-street, Haslingden.

Horsforth.—School (2,400*l.*); Mr. W. V. Dixon, County Council-buildings, Wakefield.

Hove.—A plan has been approved for the erection of four houses in Langdale-road for Mr. T. Barnard. A plan has been lodged for alterations and additions to the Albion Hotel, 110, Church-road, by Mr. A. B. Packman, for Messrs. Tamplin & Sons.

Hull.—Seed mill for Messrs. T. J. & B. Thompson (3,000*l.*); Messrs. Walker & Son, 77, Lowgate, Hull.

Ivybridge.—Catholic church; Mr. B. C. Brien, architect, Coburg-street, Plymouth.

Kilmarnock. — Extensions to hospital (10,700*l.*); the Managers.

Kilmington.—Vicarage (2,000*l.*); Mr. W. D. Caröe, architect, 3, Great College-street, Westminster, S.W.

King's Norton.—School, Selly Oak-road; Mr. H. E. Stilgoe, Surveyor, Town Hall, Birmingham.

Kirkwall.—Restoration of St. Margaret's Cathedral; Mr. G. M. Watson, architect, 15, Dublin-street, Edinburgh.

Lanark.—Institute and library (2,100*l.*); Messrs. Traill & Stewart, architects, 38, High-street, Lanark.

Ledbury. — Alterations and additions, Besbury-court, near Ledbury (3,000*l.*); Mr. A. D. Black, architect, 51, North John-street, Liverpool.

Leek.—Extensions at Albion Mill for Messrs. A. Ward & Co., bread manufacturers.

Leicester.—Additions at lunatic asylum (9,300*l.*); Mr. E. G. Mawby, Surveyor, Town Hall, Leicester.

Leven (Fife).—Extensions to Durrie Foundry for Messrs. Henry Balfour & Co., Ltd. (7,000*l.*).

Lisburn.—Bank premises for Ulster Bank; Messrs. Blackwood & Jury, architects, Dublin.

Longton (Stafford).—Proposed alterations and additions at Cottage Hospital; Mr. W. Atkins, Secretary, Cottage Hospital, Longton.

Mansfield.—Additions to Conservative club, Blind-lane; the Secretary.

Mexborough.—Business premises (6,000*l.*); Mr. W. C. Laidlaw, architect, 13, George-street, Edinburgh.

Middlesbrough.—Graving dock; Mr. J. Mitchell Moncrieff, architect, Consett-chambers, Newcastle; Sir John Aird & Co., Ltd., builders, 22, Queen Anne's-gate, Westminster, S.W.

Millport.—Additions to school (2,500*l.*); Mr. A. McKinley, architect, 6, Castle-street, Rothesay.

Mirfield.—Warehouse, Holm Bank Mills, for Messrs. James Walker & Sons, Ltd., blanket manufacturers.

Moulton.—Four houses (740*l.*); Mr. J. W. Darby, builder, Boston.

Nethertown.—Institute; Mr. James Lindsay, architect, 248, West George-street, Glasgow.

Newton Abbot.—Extension, Constitutional Club; Mr. F. E. L. Downes, 36, Queen-street, Newton Abbot.

Norwich.—Children's home (2,956*l.*); Surveyor, Guardians' Offices, Norwich.

Nottingham.—Picture hall, Harley-street (1,800*l.*); Mr. H. Booth, architect, 42, Regent-street, Haslingden.

Partick. — Alterations and additions to Pathological-buildings (8,000*l.*), for the Managers, Glasgow Western Infirmary.

Pelsall.—School (250 places); Mr. G. Balfour, County-buildings, Stafford.

Pontefract.—Artisans' dwellings; Mr. W. J. Tennant, architect, Ropergate, Pontefract.

Pontypridd.—Co-operative premises; Messrs. Richards & Kaye, architects, Market-street-chambers, Pontypridd.

Port Talbot.—Church, Oakwood; Mr. F. R. Kempson, architect, High-street, Cardiff.

Preston (South Devon).—Church; Mr. J. C. Beare, architect, 68B, Queen-street, Newton Abbot.

Prince Rock (Plymouth).—Almshouses; Mr. F. A. Wiblin, architect, 92, Old Town-street, Plymouth; Messrs. Wakeham Brothers, builders, Knighton-road, Plymouth.

Rampton.—School (200 places); Mr. C. J. Bristowe, County-buildings, Nottingham.

Rawtenstall.—Weaving shed, Fold (4,500*l.*); Mr. A. Brocklehurst, architect, St. James'-chambers, Waterpool; Messrs. Moore Brothers, builders, Burnley-road, Rawtenstall.

Redcar.—Court-house (1,200*l.*); Mr. W. H. Brierley, Architect, County Hall, York.

Rhynie (Aberdeen).—Additions and alterations to schools (2,500*l.*); Messrs. Brown & Watt, architects, 17, Union-terrace, Aberdeen.

Romford.—Isolation hospital at infirmary; Mr. W. Smith, Guardians' Offices, Romford.

Rothesay.—Church hall (3,080*l.*); Mr. A. McKinley, architect, 6, Castle-street, Rothesay.

Royton.—Extensions to Roy Spinning Mill; Mr. Sidney Stott, architect, Oldham; Mr. J. T. Bates, 625, Rochdale-road, Royton.

Salisbury.—Extensions to station (5,000*l.*); Mr. J. A. Coomb Hood, London and South Western Railway, Waterloo Station, S.E.

Shoreham-by-Sea. — Congregational church (2,500*l.*); Mr. E. J. Hamilton, architect, 13, Wellington-road, Brighton.

Smethwick.—Stores, Grove-street, for the Centaur Tool Works, Ltd., 1, Grove-street, Smethwick.

South Shields.—Graving dock for Messrs. Redhead & Co.; Mr. J. Mitchell Moncrieff, architect, Consett-chambers, Newcastle; Messrs. Nuttall & Co., builders, Trafford Park, Manchester.

Southwick-on-Wear.—Public hall, Beaumont-street; Messrs. J. Potts & Sons, architects, 57, John-street, Sunderland.

Stretford.—Extensions to baths and alterations to Town Hall and Library (7,376*l.*); Mr. Robert Carlyle, builder, Elsinore-road, Old Trafford, Manchester. The following plans have been passed:—Picture hall, City-road, for Mr. W. Openshaw; cotton storage warehouses, Westinghouse-road, for the Trafford Park Company; picture palace, King-street, for Mr. J. L. Doniger.

Tipton.—Alterations and extensions to offices for the Horseley Company, Ltd., wholesale ironfounders, Horseley Works, Tipton.

Truro.—School, Daniell-road (3,000*l.*); Mr. J. Colliver, builder, 25, St. Domonic-street, Truro.

Upper Penn.—School (4,390*l.*); Mr. W. Roe, builder, Wolverhampton.

Ushaw Moor (Co. Durham).—Church; Mr. H. Wood, architect, The Bailey, Durham; Messrs. Rutter & Sons, builders, Langley Park, near Durham.

Wakefield.—Additions to County Hall; Mr. Geoge Crooks, builder, Henry-street, Wakefield.

Wallsend.—Temperance hotel; Mr. P. C. Browne, architect, Pearl-buildings, Newcastle; Mr. T. Lumsden, builder, 84, Albert-road, Jarrow.

Wanstead.—Special instruction centre, Cambridge Park (600*l.*); Messrs. R. Woollaston & Co., builders, 40, Turner's-road, Burdett-road, E.

Wokington.—Extension, Carnegie Hall; Mr. W. B. Williams, Surveyor, Town Hall, Wokington.

FOREIGN AND COLONIAL.

The Building Trade in Ottawa.

According to the report of Mr. J. Bain, Imperial Trade Correspondent at Ottawa, building operations during the past year were on a large scale, and would continue to be so for a number of years to come, a fact which British manufacturing interests, particularly in the iron and steel trades, should specially note. It is probable that the business districts of Ottawa will be largely rebuilt on a modern basis within the next decade, and the erection of many large business blocks are in contemplation. The Dominion Government have large projects under consideration, involving the erection of many buildings for the accommodation of the different departments of the Government, and also in the direction of beautifying the city. During the next four or five years the Government will expend many millions of dollars for these purposes. So far as is known, no British contracting or engineering firm have undertaken any construction contract of any importance in the Ottawa district for many years. Good opportunities are offered in this direction, and should be taken advantage of by British firms. Special attention is called to the new large buildings proposed to be erected by the Government and by private concerns in the city, which will involve the use of a tremendous quantity of structural steel. In one departmental building, which will shortly be erected, there will be no less than 7,000 or 8,000 tons of steel used. British manufacturers do not seem to be capturing anything like a fair proportion of the import trade of Canada in structural steel. During the fiscal year ended March 31, 1911, the imports of rolled iron or steel angles, beams, channels, girders, etc., from the United Kingdom amounted to 1,104,394 dollars, as compared with 3,685,000 dollars' worth imported from other countries. In iron and steel plates, too, British manufacturers supply only a small proportion of Canadian requirements. In the construction and equipment of buildings of all kinds, it is found that there is very great room for development.

Building Materials for British India.

Building materials, such as asphalt, coloured enamelled bricks, fire-bricks for boiler setting, cement, terra-cotta, and iron pipes, are sent in considerable quantities (mostly from England) to British India. Out of about 2,262,000 dollars' worth, 1,845,000 dollars' worth came from England; only about 40,000 dollars' worth from Germany, a fact to which the German resident technical expert in Calcutta calls the attention of German exporters.

Building Trades in Berne.

These trades (reports the British Consul) had a very good year in 1911, in consequence of the almost entire absence of strikes. Syndicates of all kinds, however, are gathering forces and money for the purpose of striking in view of the Landesausstellung (National Exhibition) in 1914. Numbers of new houses have been built in the city of Berne, and numbers are undergoing repairs.

LONDON STREET DANGERS.

SINCE the recent publication of statistics revealing the increasing number of fatalities and injuries to pedestrians in the streets of the metropolis, renewed attention has been given to the question of appointing a central traffic authority in compliance with the recommendation of the Royal Commission.

We are and always have been in favour of such an appointment, for it is certain that the traffic facilities now required and those that are continually becoming necessary with the growth of population and the development of outlying districts cannot be adequately provided under the existing system of divided responsibility.

As we predicted at the time when the Royal Commission was sitting, the recommendations of that body have been systematically disregarded by successive Governments. Mr. Asquith has recently stated that "the Government do not at present propose to introduce legislation giving effect to the recommendations of the Royal Commission," at the same time calling attention to the valuable investigatons of the traffic branch of the Board of Trade.

Surely we have already had enough in the way of investigation. What we want is action, and this is precisely what cannot be expected from the traffic branch—an office having no statutory powers to carry out any of its suggestions, no money to spend, no control over traffic, and no connexion with the police authorities now engaged in traffic regulation.

The situation as a whole once more demonstrates the incompetency of Parliament for dealing with urgent requirements and the reluctance of Governments, whether Liberal or Conservative, to undertake legislation that is not connected directly or indirectly with party politics.

Important as it undoubtedly is that an executive authority with ample powers should be created to undertake the reorganisation and development of traffic facilities and the general control of traffic, we must remember that the creation of the most perfect system of highways and the establishment of the most scientific methods of regulating traffic cannot possibly eliminate the element of danger to pedestrians so long as roadways are used simultaneously by foot passengers and rapidly-moving vehicles.

The problem for the moment is to devise means for reducing the loss of life and personal injury that have become so increasingly evident of late.

The solution of the problem at present devolves mainly upon the Metropolitan Police by whom traffic is regulated, and it is difficult to see that they can do much more than is now being done to ensure the safety of the public.

Even in straight open stretches of roadway, like the Thames-embankment, a good deal of judgment is often required in crossing from one side to the other. After the pedestrian, leaving the foot pavement next the river, has successfully dodged tramcars running contrary to the accepted rule of the road and has evaded horse-drawn vehicles proceeding in the opposite direction, he is generally held up in the middle of the roadway by a flock of motor-cars and cabs, which seem to spring out of the ground like magic, and has to remain more or less in risk of his life until an opportunity presents itself for a dash to the further pavement. To cross in the reverse direction is an equally hazardous undertaking which also demands alertness and presence of mind.

The operation of threading one's way across an important junction where traffic is rarely if ever interrupted, as at Charing Cross, for instance, involves risks still greater than those presented by crossing an ordinary street, owing to the many unexpected lines followed by swiftly-travelling vehicles.

No doubt people who are mentally and physically alert, and are not liable to sudden panic, can negotiate any crossing in London with comparative safety. But careless, absent-minded, nervous, and feeble persons run serious risks which certainly ought to be reduced.

Something in this direction may be accomplished by more stringent control by the police, and still more could be done if the numerous local authorities were compelled to provide facilities in the form of subways or bridges for crossing dangerous points, and to construct refuges wherever requisite in the middle of streets and open spaces used by traffic.

Another improvement in which the police and local authorities might usefully participate would be the adoption of the gyratory system of traffic regulation at all important street junctions, on the lines proposed by Mr. Clyde Young in a letter in this week's issue.

This excellent method was suggested to the London County Council many years back by Mr. Holroyd Smith, and its application to various metropolitan street junctions was fully discussed about five years ago by Mr. W. Noble Twelvetrees in his Presidential Address to the Civil and Mechanical Engineers' Society, as reported in our issue of October 12, 1907.

Mr. Young has prepared two plans (page 45) following the model of those illustrating the address by Mr. Twelvetrees, one representing the confusing intersections of traffic lines resulting from the existing lack of systematic control, and the other showing the simplicity and safety that would be secured by establishing an oval route in the middle of the junction, around which all entering vehicles would pass until reaching the desired outlet.

This system is strictly in accordance with the dictates of common sense and could be tested practically at Ludgate-hill, Oxford-circus, and other places where circular areas already exist, without involving appreciable outlay, and just as easily abandoned if found unworkable.

Why the suggestion has never been adopted we are unable to say. The answer to this question is probably to be found in the hopeless conservatism of the official mind, and the lack of an authority empowered to initiate reforms in the regulation and control of London traffic generally.

THE STRAND ISLAND SITE.

By WILMOT CORFIELD.

DURING the lifetime of this generation no more sweeping and welcome public improvement has been made than that effected by the creation of Aldwych and Kingsway at the very heart of the capital's dominating domain, and in a region of the widest historical interest. Both thoroughfares have survived controversy and tribulation, both are facts of high accomplishment. For better or worse both have to be accepted and made the best of, and in the main London is thankful for the good they offer.

Critics abound to belittle the beauty of Kingsway, to doubt the fullness of the architectural strength evident in the putting through of a scheme of so comprehensive a conception. It has been said that the thoroughfare has no end at one end and two ends at the other end, and it is clear that a glance along its vista from either direction reveals a loss in dignity by reason of non-insistence on a stricter uniformity in the height of the buildings already erected. This defect may, however, be to some extent in course of time remedied by the raising of some of the lower elevations to the level approximating to that of the neighbouring structures. Land is cheap aloft, and top-stories spell profit and therefore prosperity, so that the hope may surely be indulged of something approaching more nearly continuity of sky-line instead of the present conspicuously irregular arrangement.

All Londoners know the "island site," hard by the spot where once rose, 100 ft. high, that very ancient thing, the Maypole of the Strand. All the world has seen it or read of that gaping gap hedged round by skirting-pale of appropriate severity just where the two grey churches sentinel the long world-loved stretch of street of momentous memories—weird and wonderful, compelling and repelling memories, ever recalling the story of the shadowy days of old resourceful England in the making, shaping herself for her mission of to-day. Roman and Dane are gone, but just below to the left of Strand-lane, a declivity leading from one of the churches to the river, are the signs of an old Roman bath, and in the very name of St. Clement Danes there remains a suggestion of that fighting, coast-raiding race, fashioned to rule the sea, who became bone of our bone, and sib with us to conquest. The site for more than twenty years has lain open to the London skies, the weeds of a score of seasons have spread a fantastic cloak of restrained colour and straggled greenery above the ghostly evidences of still disinterred cellarages and the ragged kennels of dead but famous London byways, chiefly to the edification of holders of temporary vantage seats on the tops of gliding motor-cars. Here is the "island site," a huge wilderness of golden possibilites, hacked out of a London central desert of masonry exactly where the disregarded finger of opportunity has pointed during a working generation to the just demands of the future for consideration by the present.

The County Council pipes to speculators, but the speculators will not dance. The seed-time and the harvest have come and gone. The tin tabernacle of the Revivalist, the alluring poster of a French Syndicate, the corner pavilion enticing to the joys of a big glass palace, the seats of price for a coronation crowd, the giant hoardings of a well-discussed weekly, and a modelled object-lesson in the inequalities in the opportunities for voting of Parliamentary electorates have all in turn adorned or misadorned the "island site"; but still the County Council keeps on piping, while the Londoner yet to be, whose heritage it is ours to make or mar, is stepping up behind to take our place.

A great plague devastated London, and a great fire purged London, and a wise Wren saw the great finger of opportunity pointing. So Wren planned a new London on the charred ruins and was denied a hearing for his pains. We know the story well of London's scorn of Wren's finer judgment. The voice of the hucksterer prevailed, and London's majesty was dwarfed. The haggler and the hucksterer are with us yet. It is the huckstering spirit that has left the "island site" for all these years to the tender mercies of the London weed and the London sparrow, and it is that same spirit which is striving to draw a close-packed line of bricks and mortar along the north side of the Strand (and the south bend of the Aldwych arc) from the Lyceum to the Law Courts, oblivious of the ever-pointing hand of opportunity and the folly of declining to hear the calling of the future.

It is not for the London lover in desire for the city beautiful to raise the spectre of money cost. It is for him to dream and to suggest, to keep alive the sacred flame dear to the wisher for beauty and reverence for the higher amenities of life. It is for the Gradgrinds, not the London lover to ever harp on the cost, to exaggerate its extent, and probably in the long run to lose in every way.

A few weeks ago the present writer urged in these columns the devotion of Smirke's doomed old Post Office in St. Martin's-le-Grand to the purposes of a postal museum. It has since been stated that the site alone is worth a million sterling. Accepting this statement as correct (for the sake of argument), why, then, use it for post-office purposes? Why place a huge building upon it which would be equally of service in a less expensive street? Prominent sites should be kept for high-rented, attractive shops of rate-reducing possibilities, or else for churches, museums, picture-galleries, and other public edifices—ends in themselves, not means to ends. We do not cook our dinners in our drawing-rooms. Why, then, handle mail matter in million-pound City situations, when the same acreage can be acquired for perhaps a tenth of the money at an equally suitable distance from everywhere else? When Governments and democracies have been taught to grasp the full meaning of certain economic truths the possibility of a site for health-giving or for decorative purposes will be a factor taken into account before deciding upon its final disposal quite as much as its chance suitability for the less exalted destiny occasioned by the mere prosaic needs of a Government department.

No suggestion is now made for the turning of the whole of the still unappropriated "island site" in the Strand into a public garden, but the suggestion is made for the permanent retention of a large open garden or space in the middle of the ground between the wing occupied by the Gaiety Theatre and Marconi House and that taken by the Australian Government for offices. Kingsway should lead southward to King's-square, with, in the centre of the square, King's-square-gardens, and in the centre of the gardens the Edward VII. statue. The full fine vista of Kingsway would then be visible from the Strand, and the whole noble scheme of the County Council glorified and rendered worthier of the vast community for whose delight it serves.

There is no finer urban walk in the world perhaps than that from the Bank to within bow shot of Hyde Park-corner by the most direct line available. In all its thrilling and splendid length of throbbing life only the little

green oases of the Cathedral churchyard and the Law Courts' side-garden exist. The staggering stupidity of this thing! Turn in thought to Paris, Vienna, or Calcutta, and grieve for what London, acting in the spirit of Wren's successful critics, has missed and is still lacking. But men grieve because fate has saved us from ourselves for twenty years. They fret lest a single inch of the "island site" should prove an unproductive asset yielding but little revenue; light and air and rest to eye and nerve count for nought, and so they go on building post-office warehouse accommodation for parcel-sorting people on million-sterling ground. They decline to see the finger of opportunity ever pointing to the waywardness of an obsession, and fling with both hands of their real wealth to winds that devour.

WESTMINSTER CITY COUNCIL.

AT the fortnightly sitting of the Westminster City Council on July 5 the following matters were dealt with:—

Paving.—It was agreed to repave the whole of the macadam roadway outside St. James's Palace with creosoted yellow deal blocks at a cost of 355*l.*, and to repave Dover-yard with creosoted pine blocks at a cost of 240*l.*

Surveyors' Institution.—Attention has been called to the fact that the addition to the Surveyors' Institution abutting on the new street north of the Middlesex Guildhall has been erected with a string course projecting 3 in. over the public way at a height of 5 ft. from the pavement; an explanation had been asked, and the Secretary had written expressing regret for the technical encroachment. It was decided to allow the course to remain on the Institution agreeing to pay an annual acknowledgment of 2s. 6d., and to remove it on being given notice at any time.

Vincent-square and Rochester-row Improvement.—The Improvements Committee reported that the Ecclesiastical Commissioners have intimated that they are about to grant a building lease of a site at the north-west corner of Vincent-square, on which is to be erected a hostel for King's College (London), and that in this connexion they are prepared to give certain land to the unnamed short street which runs into Vincent-square from Rochester-row and is now about 34 ft. 6 in. in width, making that street 40 ft. wide in its narrowest part and about 47 ft. wide at its widest part, and providing for a rounding off of the Rochester-row corner in addition. They also proposed to give up a small strip along the Rochester-row frontage in order that the new building may be rectangular. The area of land proposed to be given up is 1,352 sq. ft., and the proposal is based on the assumption that the City Council will take it over and be at the expense of the necessary paving and road work, with a reservation that, in the event of the property being diverted in the future to other uses (which is unlikely), the Ecclesiastical Commissioners are to have the right to make the usual vaults under the pavement and the right to make pavement lights.—It was decided to accept the offer with tenders to the Commissioners.

LEGAL COLUMN.

Trade Union Law.

The law relating to trade unions is so complicated that there appears no end to its ramifications. Judgment has recently been delivered in a case, Zuby *v.* Warwickshire Miners' Association, which occupied the Court on two days early in June.

The plaintiff, a checkweighman, and recently a member of a trade union registered under the Trade Union Act, 1871 and 1876, was applying to the Court for a declaration that a resolution expelling him from the union was *ultra vires*, and for an injunction restraining the union from acting upon it.

There was no question of benefits or payments, as his entrance fee and subscription had been returned to him, but he alleged that the deprivation of his status as a trade unionist would prevent him from obtaining occupation and earning a living.

The defendants alleged that the man had retained certain books and behaved improperly, and contended that by the rules they had power to expel a member; but with this portion of the case it is unnecessary for us to enter into details, as we are concerned only with a technical defence also raised by the union. They contended that under two statutes of the reign of George III., the Unlawful Societies Act, 1790, and the Seditious Meetings Act, 1817, as the union was divided into branches, with separate jurisdiction and with delegates to other unions, the union was a criminal association, and the Court had no power to exercise jurisdiction. The Court held that subsequent legislation dealing with trade unions was inconsistent with such of the provisions of the above Acts as still remained in force, and therefore that the legislature must be deemed to have exonerated trade unions from their application. In the result the Court declared the expulsion to be *ultra vires*, and granted an injunction. It is somewhat remarkable that a trade union should have raised a defence which, if it had succeeded, would have resulted in many of the trade unions being declared criminal associations. In view of the Trade Union Bill, which if it becomes law will extend the powers of the unions, it may be well to shortly consider some of the decisions. In the second Osborne case (the *Builder*, March 31, 1911), the Court of Appeal held that where a member was illegally expelled, the Court had jurisdiction to declare the resolution of expulsion *ultra vires* and to grant an injunction. In that case the rules of the society were held not to be illegal at common law as being in restraint of trade; but it does not appear that this finding was essential to support the jurisdiction of the Court on the other point.

When the rules are illegal in the above sense the Courts have no jurisdiction by reason of sect. 4 of the Trade Union Act, 1871, to enforce payment of benefits (see Russell *v.* Amalgamated Society of Carpenters, the *Builder*, April 5), or possibly whether the rules are in restraint of trade or not (see Thomas *v.* Portsmouth A Branch of the Ship Construction, etc., Association, the *Builder*, April 26 last). Therefore, should the unions under the Trade Union Bill giving them political powers expel a member because he declines to subscribe to the political fund, it appears that the Courts can intervene and restore him to membership, thus enabling him to claim the status of a trade unionist for the purpose of obtaining work, but that the Courts cannot secure to him the benefits which the unions confer upon members. Thus the remedy is very imperfect.

In another case, Gaskell and Others *v.* Lancashire and Cheshire Miners' Federation, an appeal from the Court of the Chancellor of the County Palatine, at one time it appeared that an interesting point would be decided under the Trade Disputes Act, 1906. The plaintiffs were members of an Association which, it was alleged, the defendants' Federation desired to absorb. The plaintiffs alleged that threats had been made to them and their employers, that if the plaintiffs did not resign their Association the men in the mine would be called out, and that in consequence the plaintiffs had been discharged. Besides a general denial, the defendants, amongst other defences, pleaded the Trade Disputes Act, contending that any action taken had been in contemplation or furtherance of a trade dispute. The plaintiffs to this replied that as the defendants' union had a Parliamentary Fund, which was held to be illegal in the case, Osborne *v.* Amalgamated Society of Railway Servants, they were not a trade union under the Trade Union Acts, nor entitled to rely upon the Trade Disputes Act. If there were no trade dispute, the Court would have had to decide the point which has been in doubt since the decision in Vacher & Sons *v.* London Society of Compositors (the *Builder*, April 12), as to whether sect. 4 of the Trade Disputes Act is general in its terms or is limited to torts committed in contemplation or furtherance of a trade dispute. The Court of Appeal, however, affirming the Court below, held that there was a trade dispute—*i.e.*, a dispute as to whether men not members of the Federation should be employed at the colliery. This brought the defendant Federation within the Act without question, and the Court held there was no substance in the point about the illegality of the Parliamentary Fund.

The action was also brought against one of the officials of the Federation; but the Court of Appeal held, affirming the Court below, that there had been no threats, and that the words complained of were really a statement that, having regard to the feeling among the men, the pits would be stopped unless the non-union men were approached at their houses. The action of this official, having been taken in contemplation of a trade dispute, the protection of sects. 1 and 3 also applied. In this case it should be noted that the men had given due notice to determine their contracts, and had been guilty of no breach of contract, so, although it is to be regretted that union men object to work with non-union men, the case was not a strong one to bring before the Courts.

The Highways Act.

By sect. 23 of the Highway Act, 1835, it is provided that "no road or occupation way made or hereafter to be made by and at the expense of an individual or private person, body politic, or corporate, nor any roads set out or hereafter to be set out as a private driftway or housepath in any award of Commissioners under an Inclosure Act, shall be deemed or taken to be a highway," repairable by the inhabitants at large, unless the person, body politic, or corporate proposing to dedicate such highway to the use of the public shall have observed certain formalities and obtained a certificate of two justices.

A decision has been given upon the meaning of this section in the case of Cabaé *v.* Walton-upon-Thames District Council (current "Law Reports"). Under the Private Street Works Act, 1892, the Council had resolved to make up a private street, and an apportionment had been made on the plaintiff. The plaintiff objected to the apportionment, and alleged that the street was a highway repairable by the inhabitants at large.

The facts are somewhat complicated, and to appreciate the point decided need not be set out in detail. In 1800 certain common lands, the site of the said street, had been enclosed, and by the award certain roads were set out, and it was declared that the public should have use over no others. The said street was not set out in this award as a road. By an enclosure award in 1804 certain lands were allotted to one Peppin, subject to a bridleway or footway the site of the street in question. The land was subsequently conveyed to certain persons, but in 1864 it came into the possession of a person who developed it as a building estate, causing other roads to join the bridleway which had been reserved in previous conveyances, and at that date it admittedly had become a highway. It had been reserved as a private way by a conveyance in 1836, and the justices had found that the street was not a highway before 1835. It was contended that the above section of the Highway Act only applied where there was an intentional dedication, and that where dedication occurred by public user it had no application. The Divisional Court negatived this contention, and held that the section applied, although there was no evidence at what precise date or in what circumstances the way had become a highway. In other words, the section gets rid of the presumption that a highway is repairable by the inhabitants at large, and affirmative evidence of the fact must be offered.

LONDON COUNCILS.

Acton.—The following plans have been passed:—Extensions to works, Cunnington-street, Acton Green, for Messrs. Evershed & Vignoles; transformating-station, Acton-lane, for the Metropolitan Electric Supply Company; printing works, Acton-lane, for Messrs. Angener, Ltd., Great Marlborough-street, W.

Barnet.—The Surveyor to the Urban District Council has been instructed to prepare an estimate of the cost of remaking a portion of High-street with tarred granite. Tenders are to be invited for making up Normandy-avenue.

Battersea.—Owing to some of the wood-blocks recently laid in St. John's-road showing signs of coming loose same are to be put in a satisfactory condition, and the whole of the paving is to be regrouted with the Acme Company's bituminous mastic at a cost of 167*l.* for the former and 5*l.* 12s. 6d. per ton for the latter. An electricity cable is to be laid from the Central Station at an estimated cost of 2,256*l.*

Bushey.—The tender of Messrs. Bailey & Son has been accepted, at 415*l.*, for making up Windmill-street.

East Ham.—The Borough Engineer has been directed to prepare plans and estimates for the erection of a convenience, partly under ground and partly over, on the Town Hall site. The tender of Messrs. Gibbs & Canning, at 190*l.* 17s., has been accepted for the supply of terra-cotta for the swimming-baths' extension. Plans have been passed for Messrs. Redbond & Slade for the erection of eight houses in Mafeking-avenue; also for Mr. F. Hamlett for the erection of a warehouse in Barking-road.

Greenwich.—The tender of Messrs. Fry Brothers, Lion Wharf, Greenwich, has been accepted by the Borough Council, at 1,175*l.*, for forming and paving Kidbrooke-gardens as a new street. Plans have been passed for Messrs. W. F. Blay & Co., Ltd., for reconstruction works at the premises of the Thames Export Packing Company, Ltd., Morden Wharf-road.

Hackney.—Sanction has been received from the Local Government Board to the borrowing of 1,385*l.* for the provision of an underground convenience in Kingsland-road, and tenders are

to be invited for carrying out the work and for the supplying and fixing of the necessary fittings, etc. The carriageway of a portion of Windus-road is to be regulated and rometalled with 3 in. of broken Guernsey granite at an estimated cost of 78*l*. The present York flagging in parts of Berger-road is to be taken up, refaced, and relaid, and the remainder of the flagging required to complete the paving of the footway is to be executed with artificial stone, and other repair works are to be carried out, at an estimated cost of 210*l*. Tenders are to be invited for renewing the wood-paving in portions of the carriageways of Kingsland-road, Stamford-hill, and Victoria Park-road. Plans have been passed for Messrs. G. E. Wallis & Sons, Ltd., for alterations to Amherst Hall, High-street, Kingsland.

Hendon.—The tender of Mr. H. Farrow has been accepted, at 858*l*., in lieu of that of Messrs. H. Elliott & Co., for execution of sewerage and surface-water drainage works, etc., in Green-lane. The following plans have been passed:—Mr. James Gibb, six shops, Lawrence-street, Mill Hill; Messrs. Haymills, Ltd., five shops, Montpelier-rise; the Kensington Freehold Trust, four houses, Sylvan-avenue, Mill Hill; Mr. R. Cracknell, four houses, Neeld-crescent, motor garage, Brent-street, and four houses, Station-road; Mr. E. H. Waterman, forty houses, Leeside-crescent, Golder's Green; Mr. W. T. Streather, twelve houses, Ella Russell-gardens; Mr. F. W. Bristowe, four houses, The Drive, Golder's Green; the Metropolitan Electric Tramways, Ltd., omnibus garage, The Hyde; Messrs. Edmonsons, Ltd., eight houses, Hoop-lane; the Second Hampstead Tennants, eleven houses off Cunningham-road; the Co-partnership Tennants, block of flats, Temple Fortune-lane; the Ecclesiastical Commissioners, new road off Finchley-road. The following plans have been lodged:—Mr. F. W. Bristowe, six houses, The Drive, Golder's Green; Mr. S. Johnson, three houses, Blind-lane; Mr. R. Cracknell, twenty houses, Neeld-crescent; the Court of Governors, additions at Mill Hill School.

Hornsey.—Application is to be made to the Local Government Board for sanction to borrow 1,500*l*., for the erection of a temporary school at Muswell-hill, and 900*l*. and 370*l*. for internal structural alterations at the North Harringay and Campsbourne Schools, respectively. The tender of Messrs. Fielding & Platt, of Gloucester, has been accepted, at 1,700*l*., for the supplying of slab-making machinery. The tender of Messrs. Rowley Brothers has been accepted for making up three roads on the Highgate new dwellings estate. Subject to protective conditions, the Council have intimated that they will be prepared to make up and take over a portion of Coolhurst-avenue, Crouch End. The following plans have been passed:—The Imperial Property Investment Company, six houses, Ellington-road, Muswell-hill; Messrs. Mattock & Parsons, Gray's Inn-road, alterations and additions to "Hazelwood," Stormont-road, Highgate; Messrs. White & White, "Ashcott," Westfield-road, Hornsey, six houses, Middle-lane; Mr. Frank Foster, Duke-street, Adelphi, W.C., bakery, Tottenham-lane. Plans have been lodged by Mr. Oswald Archer, 101, Queen Victoria-street, E.C., for a Salvation Army hall in Tottenham-lane; also by Messrs. Charles Samuel & Co., Ltd., Park-avenue South, for the erection of a bakehouse at the rear of No. 94, High-street.

Ilford.—The following plans have been passed:—Messrs. Rawlins, Culver, & Co., ten houses, Arundel-gardens, also six houses, Lynford-gardens; Messrs. Higgins & Thomerson, twenty-nine houses, Bletchworth-road; Mr. E. T. Dunn, eight houses, Abbotsford-road and Granton-road; Mr. A. J. Darlaston, alterations to skating rink; Mr. E. H. Capon, six houses, Perryman's Farm-road.

Islington.—The carriageway of Queen Margaret's-grove and a portion of the footway in Highbury New Park are to be repaired at estimated costs of 168*l*. and 112*l*. respectively. The tender of Mr. D. R. Paterson, 32, James-street, Camden Town, N.W., has been accepted at 279*l*. for extending the joint main road along the west side of a portion of the Islington Cemetery, East Finchley. Several electricity mains are to be extended at an estimated cost of 330*l*.

Poplar.—During the September quarter various road repair works are to be carried out to certain carriageways and footways in the borough at an estimated cost of 3,621*l*. The Borough Surveyor has been directed to carry out, by direct employment of labour, repairs and renewal works at the baths and washhouses at an estimated cost of 117*l*. Plans have been passed for Mr. G. J. Anderson for the erection of Nos. 59-61, Bow-lane.

Stepney.—Application is to be made to the Local Government Board for sanction to borrow 1,350*l*. for the construction of an underground convenience at the junction of West India Dock-road and Burdett-road. Electricity mains are to be extended in Cartwright-street. The tender of Messrs. Harris & Wardrop, 10-14, Wallwood-street, E., has been accepted, at 353*l*., for the erection of a laboratory and offices at 43, Whitehorse-street, E.

Walthamstow.—The following plans have been approved:—Mr. F. G. Faunch, chapel and school, Church-hill; the Prince's Pavilion, Ltd., rebuilding premises, High-street; Mr. H. H. Iles, twenty-one houses, Lyndhurst-road; Mr. E. Barltrop, nine houses, Evesham-avenue; Mr. J. E. Ashby, factory, Blackhorse-lane. Mr. D. T. Baker has lodged plans for the erection of thirty-two houses in Boundary-road.

Wandsworth.—The tender of Messrs. John Mowlem & Co. has been accepted at 2,385*l*. for carrying out the work of paving part of the carriageway of Long-road, between the kerb and the outer tramway rails, with wood. The price mentioned includes relaying the kerb and retopping the tar-paved footpath on the southern side of the road. Subject to the consent of the London County Council, a gravel footpath is to be formed on Tooting Common alongside the road leading across the Common from the junction of Clareview-road and Furze-down-road to the Tooting Bec Asylum, at an estimated cost of 290*l*. The following plans have been passed:—Cubitt Concrete Construction Company, factory, Bedford-road, Clapham South; Messrs. Waring & Gillow, additions to Ackroydon, Prince's-road, Southfield; Messrs. Dent & Hellyer, Ltd., caretaker's house, at Convent of the Sacred Heart, Putney Bridge-road, Southfield; British Land Company, Ltd., erection of bakehouse, etc., Mitcham-road, Tooting.

Watford.—The Surveyor has been instructed to carry out sewerage work at the Baryta Factory at an estimated cost of 548*l*. Sanction has been received from the Local Government Board to the borowing of 2,134*l*. for the erection of a convenience in Church-street. The following plans have been passed:—Mr. W. Bryant, four villas, Euston-lane; Mr. W. King, Monmouth-road, six houses, Hagden-lane; North Watford Electric Cinema, Ltd., electric cinema, junction of St. Alban's-road and Bedford-street; Baryta Company, Ltd., factory, Cassio Bridge Estate.

West Ham.—The production of artificial stone manufactured by the Council's plant during the year ending March 31, 1912, amounted to 137,755 super. ft., the cost working out at 3·47d. per super. ft., as compared with 60.711 and 3·94d. in the preceding year. The following plans have been passed:—Messrs. Venesta, Ltd., addition at Venesta Wharf, North Woolwich-road, Silvertown; Mr. A. Smith, conversion of chapel, Bridge-road, Stratford, into picture palace; Mr. J. M. H. Gladwell, motor garage, Chapel-street, Stratford; Messrs. Reid Brothers, three houses, Upton-lane, Forest Gate, also surgery, etc., Barking-road, Plaistow; Mr. C. Living, jun., warehouse, etc., Barking-road, Plaistow; Mr. C. J. Dawson, offices, etc., Cody-road, Canning Town; Messrs. Newman & Jacques, alterations to Nos. 393, 395, and 397, High-street, Stratford. The following plans have been lodged:—Messrs. Ward & Ward, cinematograph theatre, Green-street, Forest Gate; Mr. H. Cundy, cinematograph theatre, Richmond-street, Plaistow; Mr. C. J. Dawson, fish meal factory, Oxle's Estate, Carpenters'-road, Stratford.

Wimbledon.—Subject to arrangements being made with the Surrey County Council for them to contribute towards the cost of the work, the tender of the Improved Wood Pavement Company, Ltd., 26, Queen Victoria-street, E.C., has been accepted, at 2,110*l*., for paving the margins of the carriageways in Worple-road, Hill-road, The Broadway, and a portion of Merton-road, with soft wood blocks. The offer of the Roadamant Company, Ltd., has been accepted, subject to the usual sanction, at 825*l*., for paving the carriageway of a portion of High-street, with "Roadamant." The tenders of Messrs. E. & E. Iles, 54, North-road, Wimbledon, have been accepted, at 1,295*l*. and 705*l*., for making up portions of Langham-road and Grove-road, respectively; as have also the tenders of Mr. S. Lane, 22A, Cecil-road, Wimbledon, at 390*l*. 10s. and 174*l*., for making up Strathmore-road and a portion of Broadway-mews, respectively. The Borough Surveyor has prepared plans for widening and reconstructing Haydon's-road at an estimated cost of 3,400*l*. Plans submitted by Messrs. B. A. Boyton, J. S. Brocklesby, and R. J. Thomson have been passed for the erection of four houses in Cottenham Park-road, five in Wilton-grove, and for alterations and additions to Nos. 35, 36, and 37, The Broadway, respectively. Plans have been lodged by Mr. R. A. Hinds for the erection of three shops in Coombe-lane, as have also plans by Mr. B. A. Boyton for four houses in Cottenham Park-road.

PATENTS.

APPLICATIONS PUBLISHED.*

13,693 of 1911.—Thomas William Twyford: Flushing valves.

13,751 of 1911.—James Yate Johnson (Edward Joseph Bull): Hinges for door or window-frames.

14,031 of 1911.—James Joseph Smith: Stone-cutting saws.

14,155 of 1911.—William Herbert Jarvis: Sash fasteners.

15,113 of 1911.—William Chattaway: Means for manufacturing metal sections, such as floor plates, roof plates, and the like.

20,219 of 1911.—Thomas Hillier Pyke: Artificial stone.

20,356 of 1911.—William Oates and Frank Peto Barber: Water-closet pedestals or basins.

20,854 of 1911.—Michael Ratomsky: Barrel for holding cement and other materials.

22,478 of 1911.—Samuel Sigler Wales: Closures for stove pipe openings.

28,497 of 1911.—Walter Lucas: Joint for sewer and like pipes.

28,604 of 1911.—Otto Junak: Paving for open-air tennis-courts.

1,332 of 1912.—Wilhelm Mittelmann: Insulating walls and ceilings.

1,816 of 1912.—Frederick Malcolm Prockter: Joining or coupling of pipes.

2,538 of 1912.—James Joseph Smith: Stone-cutting saws.

4,468 of 1912.—George Watson Beattie: Open-air shelters for invalids.

5,150 of 1912.—Julius Tiedemann: Drain pipes.

7,803 of 1912.—Robert Green: Roofing tiles.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

June 12.—By HERBERT PARRY & FERRIS.

Marshfield, Glos.—Harcombe and Pound Hill Farms, etc., 228 acres, f.	£6,043

June 13.—By ESCRITT & BARRELL.

Holbeach, Lincs.—Freehold farm, 189 a. 0 r. 39 p.	11,250

June 15.—By BENTLEY & SONS.

Arksey, Yorks.—Arksey Farm, 183 a. 1 r. 18 p., f.	7,100

By SALTER, SIMPSON, & SONS.

Whinbergh, Norfolk.—Lodge Farm, 120 a. 3 r. 33 p., p.	1,700
Reymerston, Norfolk.—North Green Farm, etc., 85 a. 2 r. 32 p., f.	1,780

June 17.—By ESCRITT & BARRELL.

Braunston, Rutland.—Pasture land, 65 a. 2 r. 12 p., f. and c.	2,000
Leighfield, Rutland.—Pasture land, 50 a. 3 r. 8 p., f.	1,000

June 18.—By ALFRED PRESTON.

Cretingham, Suffolk.—Cretingham Lodge Estate, 248 a. 2 r. 27 p., f.	5,000
Earl Soham, Suffolk.—Chestnut Farm, 105 a. 0 r. 15 p., f.	1,250
The Rookery and 4 a. 1 r. 12 p., f.	950

By HAMPTON & SONS.

Corfe Mullen, Dorset.—Mill and Whitehall Farms, etc., 87 acres, f.	4,940

June 19.—By RUMBALL & EDWARDS.

St. Albans, Herts.—Westfields Estate, 122 a. 0 r. 6 p., f.	6,320

June 20.—By JAMES STYLES & WHITLOCK.

Shawell, Leics.—Part of Cotesbach Estate, 461 acres, f.	10,785

By WINCH & SONS.

Headcorn, Kent.—Hawkenbury Hall Farm, 92 a. 2 r. 37 p., f.	2,200
Staplehurst, Kent.—Little Pagehurst and Harpe Farms, 84 acres, f.	2,050

By RIPPON, BOSWELL, & Co.

Musbury, Devon.—Mountfield and 4 a. 2 r. 6 p., f.	2,000

June 22.—By H. W. & C. SPELMAN.

Colton, Norfolk.—Old Hall Farm, 207 a. 3 r. 15 p., f. and c.	4,500

By THOMAS SANDERS.

Chulmleigh, Devon.—Accommodation land, 590 a., f.	9,957
Fortescue Arms Hotel and 36½ acres, f.	1,625

June 25.—By EDMUND BECK & SONS.

South Lynn, Norfolk.—Small holdings, 181 a. 0 r. 11 p., f.	8,535

By J. KITTOW & SON.

Otterham, Cornwall.—Agricultural estate, 1,740 a. 3 r. 22 p., f.	20,342

By FRANK PARSONS & Co.

Evenlode, Worcs.—Church Farm, 73 a. 1 r. 16 p., f.	1,412

June 26.—By SAMUEL ALDRED & SON.

Oby, Norfolk.—Ivy Cottage Farm, 73 a. 3 r. 36 p., f.	1,400

By KEMSLEY.

Romford, Essex.—1, Vine-st. and four plots, f.	460
1 and 2, Maple-st., f., w.r. 39*l*.	420
66 to 72 (even), Salisbury-rd., f., w.r. 62*l*. 8s.	680

By WATERS & RAWLENCE.

Stockbridge, Hants.—Pyles and Little Deans Farms, 519 a. 3 r. 24 p., f.	6,000

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

SOME RECENT SALES—continued on page 62.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. **Those with an asterisk (*) are advertised in this number:** Competitions, iv.; Contracts, iv. vi. viii. x.; Public Appointments, xvii.; Auction Sales, xxii. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

*** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.

Competitions.

AUGUST 6. — **Cardiff.** — FIRE-STATION. — The Cardiff Corporation invite designs and estimates for a fire brigade station in Westgate-street. Mr A. Marshall Mackenzie, assessor. Particulars from the Town Clerk, City Hall, Cardiff.

AUGUST 30. — SAXON SNELL PRIZE. — Fifty guineas, with medal, is offered for essay on "The Lighting, Heating, etc., of an Operating-Room for a General Hospital." Particulars from the Sanitary Institute, 90, Buckingham Palace-road, S.W.

SEPTEMBER 1.—**Goole.**—MUNICIPAL OFFICES.—Premiums 30*l.* and 15*l.* Particulars from Mr. R. Tyson, Council Offices, Goole.

* SEPTEMBER 9. — **Chorley.** — SCHOOL. — The Chorley Education Committee invite designs for Council school for about 500 children. See advertisement in this issue for further particulars.

SEPTEMBER 30.—**Dublin.**—UNIVERSITY COLLEGE: NEW BUILDINGS.—Limited to architects in Ireland. Assessor, Mr. H. T. Hare, F.R.I.B.A.

OCTOBER 1. — **Ottawa.** — MONUMENT TO KING EDWARD VII.—Sketch models in plaster to be sent to the Director of National Art Gallery, Ottawa. Particulars from the Public Works Department, Ottawa.

* OCTOBER 29.—**Glasgow.**—DESIGNS FOR EXTENSION OF MUNICIPAL BUILDINGS.—The Glasgow Corporation invite architects to submit preliminary sketch designs in competition for the extension of the Municipal buildings. Five will be selected to submit complete drawings in final competition. See advertisement in this issue for further particulars.

* OCTOBER 31.—**Huddersfield.**—TOWN PLANNING.—The Housing and Town Planning Committee of the Huddersfield Corporation invite designs for the laying-out of certain areas within the county borough and part of an adjacent suburb. See advertisement in this issue for further particulars.

NO DATE.—**Jordanhill, Glasgow.**—PROPOSED TRAINING COLLEGE.—Limited to six firms, named in "Competition News," December 1, page 635.

NO DATE. — **Warrington.** — SCHOOL. — The Warrington Education Committee invite competitive plans for the erection of a public elementary school. See advertisement in issue of February 16 for further particulars.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

JULY 12.—**Carlow.**—ROOM, ETC.—Erection of a directors' board-room, secretary's office, lavatory, etc., at the Carlow Gas Company's premises, Montgomery-street, Carlow. Mr. R. J. Nicholson, secretary, Board-room, Carlow.

JULY 12.—**Denbigh.**—ALTERATIONS.—For alterations at the Salem Wesleyan Chapel, Denbigh. Plan and specification with Mr. John Roberts, Railway Stores, Denbigh.

JULY 13. — **Killough.** — HOUSES, ETC. — The Governors of Charles Sheils' Institution, Killough, Co. Down, invite tenders for the erection of a block of houses, water tower engine, and pump-house, etc., adjacent to the present houses. Plans and specification with Messrs. Young & Mackenzie, Scottish Provident-buildings, Belfast, and quantities from Mr. S. C. Hunter, Building Surveyor, Belfast, on deposit of 2*l.* 2s.

JULY 15.—**Aberdeen.**—ALTERATIONS.—For the alterations on gardener's cottage at Stoneywood House. Plans and specifications with Messrs. Jenkins & Marr, civil engineers and architects, 16, Bridge-street, Aberdeen.

JULY 15.—**Athy.**—HOUSES.—Erection of twenty-one working-class houses. Plans and specifications by Mr. James F. Reade A.M.Inst.C.E., the Council's Architect, 28, Barronstrand-street, Waterford.

JULY 15. — **Barnet.** — ADDITIONS, ETC. — For alterations and additions at the Brunswick Park County Council School, East Barnet. Drawings, specification, agreement, etc., at the County Surveyor's Office, Hatfield. Deposit of 2*l.* 2s.

JULY 15.—**Coxley.**—ROOM, ETC.—Erection of a new cloakroom, alterations, etc., at the Coxley Council School, near Wells. Plans and specification with the architects, Messrs. Samson & Coulthurst, 51, High-street, Bridgwater.

JULY 16.—**Coventry.**—SHOP, ETC.—Erection of shoeing and repair shop at sewage pumping-station, Whitley. Drawings, general stipulations, and conditions of contract seen, and forms of tender and quantities from Mr. J. E. Swindlehurst, City Engineer and Surveyor, St. Mary's Hall, Coventry. Deposit of 1*l.* 1s.

JULY 16.—**Crosshaven.**—COTTAGE.—For the building of a lightkeeper's cottage near Weaver's Point, Crosshaven. Plan, specification, and form of tender at the Harbour Engineer's Office, Custom House-street, Cork.

JULY 16.—**Leeds.**—DWELLINGS.—Erection of two dwellings in Esmond-terrace, Armley, Leeds. Specification and drawings seen, and forms of tender, with quantities, from Mr. W. T. Lancashire, City Engineer, Municipal-buildings, Leeds.

JULY 16.—**London.**—EXCHANGE.—Erection of the Museum Telephone Exchange. Drawings, specification, and a copy of the conditions and form of contract with Mr. J. Rutherford, 22, Carlisle-place, London, S.W. Quantities and forms of tender at H.M. Office of Works, Storey's-gate, London, S.W., on deposit of 1*l.* 1s.

* JULY 17. — **Brentford.** — EXTENSIONS TO LAUNDRY.—The Brentford Guardians invite tenders for additions and alterations at laundry of Workhouse. See advertisement in this issue for further particulars.

JULY 17. — **Bury.** — ALTERATIONS.—The Lancashire and Yorkshire Railway invite tenders for alterations to the grain warehouse at Knowsley-street Goods Yard, Bury. Plans seen, and quantities and specification at the Engineer's Office, Hunt's Bank, Manchester.

* JULY 17.—**Fulham.**—REPAIRS AND FOUNDATIONS.—The Fulham B.C. invite tenders for repairs to economiser-house, and sinking two additional piers for foundations. See advertisement in this issue for further particulars.

* JULY 17.—**Kingston-on-Thames.**—CHIMNEY-SHAFT AND ROOFS.—The Kingston Guardians invite tenders for repairs to chimney-shaft and roofs. See advertisement in this issue for further particulars.

JULY 17.—**London.**—BLOCKS.—Erection of ward blocks at Workhouse and Infirmary, Acton-lane, Willesden, N.W. Designs, specifications, and general conditions of contract by architect, Mr. A. Saxon Snell, F.R.I.B.A. Specifications and drawings, and quantities and form of tender with the Guardians' Surveyors, Messrs. Northcroft, Neighbour, & Nicholson, of 338, Birkbeck Bank-chambers, Chancery-lane, W.C. Deposit 20*l.*

JULY 17.—**London.**—DEMOLITION.—The Metropolitan Asylums Board invite tenders for demolishing old boiler-house, chimney-shaft, and other buildings at the North-Eastern Fever Hospital, St. Ann's-road, Tottenham, N. Drawings and specifications by Mr W. T. Hatch, M.Inst.C.E., M.I.Mech.E., Engineer-in-Chief, at the Office of the Board, Embankment, E.C., on deposit of 1*l.*

JULY 18.—**Bangor.**—INFIRMARY.—For the erection of a new infirmary at Bangor. Plans and specifications, by the Guardians' Architect, Mr. F. Bellis, Bangor, at the Union or Architect's offices. Deposit of 5*l.* 5s. to Mr. R. Benjamin Evans, Clerk, Union Offices, Bangor.

JULY 18.—**Barrow-in-Furness.**—ALTERATIONS.—For alterations to St. George's School, Barrow-in-Furness. Plans seen, and quantities from Messrs. Settle & Brundrit, A.R.I.B.A., Barrow-in-Furness.

JULY 18.—**Glenariff.**—SCHOOLS.—Erection of new schools at "The Bay," Glenariff. Plans and specification with Mr. T. J. O'Neill, architect, Ballycastle.

JULY 18.—**Llanelly.**—ADDITIONS.—For additions and alterations to Moriah Chapel. Plans and specifications, etc., with the architect, Mr. J. Evans, C.E., 47, Stepney-street, Llanelly.

JULY 18.—**Penygraig.**—ENGINE-HOUSE, ETC.—The Penygraig Industrial Co-operative Society, Ltd., invite tenders for proposed new stable accommodation and engine-house, at rear of Blaenlae-street, Penygraig. Plans and specifications with Mr. Fredk. Lewis, architect and engineer, National-chambers, Penygraig.

JULY 19.—**Cardiff.**—SHELTER.—For erection of a ferro-concrete boat shelter at the Roath Park. Specification, drawings, and form of tender from the City Engineer, Mr. W. Harpur, M.Inst.C.E., City Hall, Cardiff.

JULY 19.—**Ebbw Vale.**—VILLAS.—For works to thirty-eight semi-detached villas, and for the completion of nine partly-erected houses in one terrace. Also for making-up accommodation roads at Badminton-grove, Ebbw Vale, for the Blaen Ebbw Building Club. Plans and specifications with Messrs. Wm. Harris & Son, architects and surveyors, Bank-chambers Bargoed, and 58, Commercial-street, Tredegar, Mon.

JULY 19.—**Embleton.**—FOUNTAIN.—For erection of a fountain at Embleton, Northumberland, as a King George V. Coronation memorial. Drawings and specification with Mr. G. Reavell, jun., A.R.I.B.A., Lloyd's Bank-chambers, Alnwick.

JULY 22.—**Blackwood.**—HOUSES.—Erection of ten or more semi-detached houses in Woodbine-road, Blackwood, Mon., for the Trustees of the Woodbine Building Club (No. 3). Plans and specifications with Messrs. W. Morgan Lewis & Walters, architects and surveyors, Pontypridd.

JULY 22. — **Evesham.** — ALTERATIONS. — For alterations and additions to road foreman's cottage, at the corner of Avon-street and Briar Close, Evesham. Specification and plan with the Borough Surveyor, Town Hall, Evesham.

* JULY 22.—**Orsell.**—ALTERATIONS.—The Orsell Guardians invite tenders for alterations to the Union Offices. See advertisement in this issue for further particulars.

JULY 22.—**Tyrone.**—SCHOOLS.—Erection of male and female schools at Moortown, Ardboe, Tyrone. Plans and specifications at Parochial House, Arboe.

JULY 23.—**Berwick-on-Tweed.**—RESERVOIR.—Construction of a service reservoir. Specifications, quantities, and forms of tender from Mr. Robert Dickinson, Borough Surveyor, Wallace Green, Berwick-upon-Tweed. Deposit of 2*l.* 2s.

* JULY 23.—**West Norwood.**—DWARF WALL AND RAILINGS.—The Lambeth Guardians invite tenders for erection of dwarf walling and iron railings at the Home for Aged Poor, Elder-road, West Norwood, S.E. See advertisement in this issue for further particulars.

JULY 24.—**Belper.**—SHED, ETC.—The Midland Railway invites tenders for the erection of goods-shed and offices in brick at Belper. Plans and specifications seen, quantities, and particulars at the Engineer's Office, Derby Station.

JULY 24.—**Roose.**—EXTENSION.—For an extension of the Workhouse at Roose. Plans, specification, and form of contract at the office of Mr. H. T. Fowler, A.R.I.B.A., Cornwallis-street, Barrow-in-Furness.

JULY 25.—**Rainhill.**—COTTAGES.—Erection of two cottages at Asylum. Drawings and information at the Engineer's Office. Quantities from Mr. James Gornall, Clerk and Steward, Clerk's Office, Rainhill Asylum.

* JULY 26.—**Brighton.**—ALTERATIONS, ADDITIONS, ETC.—The Asylum Visiting Committee invite tenders for carrying out alterations and additions to ward No. 6, and for fencing shelter walls and other work to airing court. See advertisement in this issue for further particulars.

* JULY 26.—**Surbiton.**—POWER-STATION, ETC.—The Surbiton U.D.C. invite tenders for the erection of power-station, destructor-house, etc. See advertisement in this issue for further particulars.

JULY 29. — **Dundee.** — STEELWORK, ETC.—For mason and structural steelwork of new training college, Dundee. Quantities from the architect, Mr. T. M. Cappon, F.R.I.B.A., 32, Bank-street, Dundee, on deposit of 1*l.* 1s.

JULY 31.—**St. Helens.**—LIBRARY.—Erection and completion of a public library, with all contingent works, at the south-west corner of Thatto Heath Park. Drawings seen, and conditions of contract, specifications, and quantities, with form of tender, from Mr. Arthur W. Bradley, M.Inst.C.E., Borough Engineer. Deposit of 2*l.*

JULY 31. — **Wednesbury.** — ADDITIONS. — For alterations and additions to the public baths and municipal offices. Quantities, conditions, and form of tender from Messrs. Scott & Clark, M.S.A., A.R.C.A., architects, Lower High-street, Wednesbury. Deposit of 3*l.* 3s.

AUGUST 7. — **Penrhiwceiber.** — REBUILDING.—For the rebuilding of business premises in Rheola-street, Penrhiwceiber, for the Penrhiwceiber Co-operative Society, Ltd. Plans and specification seen, and quantities from Mr. Philip J. Jones, architect, Church-street, Pontypridd, on deposit of 2*l.* 2s.

NO DATE.—**Beccles.**—SHOPS.—For erection of new shops, with showrooms, millinery, dressmaking, and stock rooms, for the Beccles Working Men's Co-operative Association, Ltd. Deposit of 10s. to Mr. A. Pells, F.S.I., architect, 13, London-road, Beccles.

NO DATE.—**Bradford.**—ADDITIONS.—For reconstruction of and additions to warehouse in Hey and Blythe streets, Bradford. Messrs. Samuel Robinson & Sons, architects and surveyors, 15, Cheapside.

NO DATE.—**Darlington.**—ROOMS.—Erection of surgeon's and dentist's rooms in Crown-street. Messrs. Clark & Moscrop, FF.R.I.B.A., architects, Feethams, Darlington.

BUILDING—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

No DATE.—**Exeter.**—REBUILDING.—For the demolition and rebuilding of Nos. 139 and 140, Sidwell-street, Exeter. Mr. J. Archibald Lucas, F.S.I., A.R.I.B.A., architect and surveyor, Guildhall-chambers, 49, High-street, Exeter.

No DATE.—**Ruthin.**—SCHOOLROOM, ETC.—For the erection of a schoolroom, with kitchen, etc., at the Pendref Congregational Chapel, Ruthin. Quantities, on deposit of 1*l.* 1s., from Mr. F. A. Roberts, M.S.A., architect and surveyor, Earl-chambers, Mold.

✱ No DATE.—**Southall.**—BAKERY AND STABLES.—Builders wishing to tender for erection of bakery and stables should send their name to the Architect's Department, Co-operative Wholesale Society, Ltd., 1, Balloon-street, Manchester. See advertisement in this issue for further particulars.

No DATE.—**Towyn.**—REPAIRS.—For repairs, etc., at Bryncrug Council School, near Towyn. Specification and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

No DATE.—**Wearhead.**—CHURCH.—Erection of a new church at Heathery Clough, Wearhead. Quantities from Messrs. Clark & Moscrop, F.F.R.I.B.A., architects, Feethams, Darlington.

ENGINEERING, IRON, AND STEEL.

JULY 15.—**Whitley Bay.**—GARDENS, ETC.—For construction of Windsor Gardens, East End, and construction of back street between Ilfracombe Gardens and Bideford Gardens. Plans and specifications seen, and quantities and forms of tender from Mr. A. J. Rousell, A.M.Inst.C.E., the Council's Surveyor, Council Offices, Whitley Bay.

JULY 16.—**Nuneaton.**—PUMP.—For the erection at the electricity works of one electrically-driven, turbine type, boiler-fed pump, with pipework, valves, and accessories. Specification and drawing from Mr. S. Cameron Gibson, Borough Electrical Engineer, Electricity Works, Nuneaton. Deposit of 1*l.* 1s.

JULY 17.—**Dartford.**—HEATING.—The Metropolitan Asylums Board invite tenders for heating and hot and cold water supply alterations in certain existing blocks at Long Reach Small-pox Hospital, near Dartford, Kent. Drawings and specifications, prepared by Mr. W. T. Hatch, M.Inst.C.E., M.I.Mech.E., Engineer-in-Chief, at the Office of the Board, Embankment, London, E.C., on deposit of 1*l.*

JULY 19.—**Dublin.**—LIGHTING.—For the electric lighting of Fitzgibbon-street police barracks and station, Dublin. Plans and specification at the office of Mr. H. Williams, Secretary, Office of Public Works, Dublin.

JULY 20.—**Glasgow.**—ENGINE, ETC.—For the installation of electric lighting engine and dynamo at Crawford-street and Haghill refuse-disposal works. Information and drawings with Mr. W. W. Lackie, Electrical Engineer, 75, Waterloo-street, Glasgow.

JULY 22.—**Northampton.**—BRIDGE.—For the masonry and other works required in the widening of the south bridge over the River Nene in three arched spans. Plans seen and specifications, quantities, and forms of tender from Mr. Alfred Fidler, M.Inst.C.E., Borough Engineer and Surveyor, Guildhall, Northampton. Deposit of 2*l.* 2s.

✱ JULY 24.—**Dartford.**—GLAZED ROOF.—The Metropolitan Asylums Board invite tenders for erection of a glazed roof. See advertisement in this issue for further particulars.

JULY 24.—**Swinton.**—DAM WALL.—For the construction of a dam wall. Particulars and form of tender from Mr. H. Entwisle, Surveyor, Council Offices, Swinton, Manchester.

JULY 25.—**Bexhill.**—APRON.—For construction of an apron to sea wall. Plans seen, and specification, quantities, and form of tender from Mr. George Ball, Assoc.M.Inst.C.E., Borough Surveyor, Town Hall, on deposit of 1*l.* 1s.

JULY 25.—**Valletta.**—DESTRUCTOR.—For providing a refuse destructor for the Central Hospital, for the Receiver-General and Director of Contracts, Valetta. Deposit of 10*l.* Particulars, specifications, etc., from the Crown Agents for the Colonies, Whitehall-gardens, London.

JULY 26.—**Rhondda.**—WALL.—For the reconstruction of mountain retaining wall at Coedcae-road, Trehafod. Plans and specifications seen, and forms of tender, on deposit of 1*l.* 1s., from Mr. W. J. Jones, Engineer and Surveyor, Council Offices, Pentre, Rhondda.

JULY 26.—**Uxbridge.**—BRIDGE.—For construction of a new brick and steel bridge over the River Frays at Rabb's Mill, Uxbridge, Middlesex. Plans and specifications with the Council's Surveyor, Mr. W. L. Eves, F.R.I.B.A., 54, High-street, Uxbridge.

AUGUST 6.—**Newport.**—BRIDGE.—Reconstruction of Chepstow-road Bridge, Newport, Mon. Plans and specification seen, and forms of tender and quantities from the Engineer at Paddington Station, London.

AUGUST 12.—**Widnes.**—LOCK.—For construction of a new lock entrance leading from the Widnes West Bank Dock into the River Mersey. Specification and contract drawings, with quantities and form of tender, from the Trustees, Ditton-road-chambers, Widnes. Deposit of 5*l.* Consulting engineer for the work, Mr. T. R. Wilton, A.M.Inst.C.E., 18, Westminster-chambers, 1, Crosshall-street, Liverpool.

AUGUST 15.—**Raipur.**—RESERVOIR.—For constructing Maramsilli Reservoir, Raipur District, Central Provinces, India, sixteen miles from the Dhamtari Station, Bengal-Nagpur Railway. Particulars from Mr. P. Davies, Executive Engineer, Mahanadi Headworks Division, Raipur.

FURNITURE, PAINTING, MATERIALS etc.

JULY 15.—**Bradford.**—PAINTING.—For painting and decorating the Girlington Baptist Chapel, Bradford. Specifications and particulars from Mr. Rawnsley, 44, Washington-street, Girlington.

JULY 15.—**Cnatham.**—PAINTING, ETC.—For painting, etc., the interior of St. Mary's Boys' School, Cross-street, Chatham. Particulars, specification, and form of tender at the Borough Surveyor's Office, Town Hall, Chatham.

JULY 15.—**Dorchester.**—PAINTING.—For painting, limewashing, and repairing at the Dorchester Church of England schools. Particulars and forms of tender from Mr. H. O. Lock, Secretary to Managers, 24, High West-street, Dorchester.

JULY 15.—**Gravesend.**—PAINTING.—For redecorating sundry schools. Specifications at the Borough Surveyor's Office.

JULY 15.—**Lockwood.**—PAINTING.—For painting the greenhouses, etc., at Beaumont Park and "Woodfield," Lockwood. Specifications and general conditions seen, and quantities and forms of tender from Mr. K. F. Campbell, M.Inst.C.E., Borough Engineer and Surveyor, 1, Peel-street, Huddersfield.

JULY 16.—**Eton.**—DEALS.—For 40 fathoms of best Swedish yellow deals and batten ends. Mr. H. L. C. Barrett, Clerk to the Guardians, Slough, Bucks.

JULY 16.—**Leeds.**—PAINTING.—For painting the bridges over the River Aire, known as the South Accommodation-road, Crown Point, and Leeds Bridges. Specification seen, and form of tender from Mr. W. T. Lancashire, City Engineer, Municipal-buildings, Leeds.

✱ JULY 17.—**Kingston-on-Thames.**—PAINTING AND REPAIRS.—The Kingston Guardians invite tenders for repairs and painting at the Workhouse. See advertisement in this issue for further particulars.

JULY 20.—**Canterbury.**—PAINTING.—For external and internal painting at the school buildings, and the master's house in St. John's-place. Particulars from Mr. A. C. Turley, A.M.Inst.C.E., City Surveyor, City Surveyor's Office, Guildhall-street.

JULY 20.—**Stockport.**—PAINTING.—For painting the exterior of the Town Hall. General conditions seen, and specification, with form of tender, from Mr. John Atkinson, A.M.Inst.C.E., Borough Surveyor, Town Hall, Stockport.

JULY 22.—**Hinckley.**—PAINTING.—For painting the interior of the cast-iron tank of the water-tower. Specifications and conditions of contract seen, and tender forms from Mr. E. H. Crump, A.M.Inst.C.E., Surveyor, Council Offices, Hinckley.

✱ JULY 23.—**Edmonton.**—PAINTING, ETC.—The Guardians of the Strand Union invite tenders for painting, cleaning, etc. See advertisement in this issue for further particulars.

JULY 24.—**Canterbury.**—PAINTING, ETC.—For painting, distempering, etc., at the City Guildhall. Particulars from Mr. A. C. Turley, A.M.Inst.C.E., City Surveyor, City Surveyor's Office, Guildhall-street, Canterbury.

JULY 24.—**Manchester.**—PAINTING.—For painting the Art Gallery, Mosley-street, and plastering and painting warehouse in George-street. Specifications from the City Architect, Town Hall, on deposit of 10s. 6d.

✱ JULY 24.—**Upper Edmonton.**—PAINTING.—The Edmonton Guardians invite tenders for inside painting of Infirmary, 77, Bridport-road, Upper Edmonton. See advertisement in this issue for further particulars.

✱ JULY 24.—**Various.**—PAINTING.—The Metropolitan Asylums Board invite tenders for cleaning, painting, and repairs at several institutions. See advertisement in this issue for further particulars.

No DATE.—**Aberangell.**—PAINTING.—For painter's work at Aberangell Council School. Specification and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

No DATE.—**Blaenau Festiniog.**—PAINTING, ETC.—For painter's and plumber's work at the Slate Quarries Infants' Council School, Blaenau Festiniog. Specification and particulars from Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

No DATE.—**Blaenau Festiniog.**—PAINTING, ETC.—For painter's work at the Slate Quarries Boys' Council School, Blaenau Festiniog. Specification and particulars from Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

No DATE.—**Blaenau Festiniog.**—PAINTING, ETC.—For painter's work at Glanypwll Council School, Blaenau Festiniog. Specification and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

No DATE.—**Blaenau Festiniog.**—PAINTING, ETC.—For painter's work at the Slate Quarries Girls' Council School, Blaenau Festiniog. Specification and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

No DATE.—**Blaenau Festiniog.**—PAINTING.—For painter's work at the Higher Elementary School, Blaenau Festiniog. Specifications and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

No DATE.—**Brithdir.**—PAINTING.—For painter's work at Brithdir Council School, near Dolgelley. Specification and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

No DATE.—**Corris.**—PAINTING, ETC.—For painter's and builder's work at Corris Council School. Specification and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

No DATE.—**Dinas Mawddwy.**—PAINTING.—For painter's work at Dinas Mawddwy Council School. Specification and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

No DATE.—**Festiniog.**—PAINTING, ETC.—For painter's work and plumber's work at the Festiniog Council schoolmaster's house. Specifications and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

No DATE.—**Lincoln.**—PAINTING.—For the internal colouring and painting of schools during the midsummer holidays. Specification and forms of tender from Mr. R. C. Minton, Secretary for Education, Corporation Offices, Lincoln.

No DATE.—**Merioneth.**—PAINTING.—For painter's work at Trawsfynydd Council schoolmaster's house. Specification and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

ROADS, SANITARY AND WATER WORKS.

JULY 15.—**Shilton.**—WALL.—For building about 80 ft. 1 in. of front boundary wall, fixing 140 yds. of W.I. fencing, and making footpaths for the proposed cemetery at Shilton. Plans and specifications from the architect, Mr. Douglas Payne, 25, Burges, Coventry.

JULY 17.—**Dundee.**—SETTS.—For supply of 400 tons causeway setts, for the Harbour Trustees. Mr. J. Hannay Thompson, M.Inst.C.E., M.Sc., General Manager and Engineer, General Manager and Engineer's Office, Dundee.

✱ JULY 20.—**Farningham.**—DRAINAGE.—The Kent Education Committee invite tenders for execution of certain drainage work. See advertisement in this issue for further particulars.

JULY 22.—**St. Annes-on-Sea.**—STREETS.—For the making-up of streets. Plans and specifications seen, and quantities and forms of tender from the Surveyor, Council Offices, St. Annes-on-the-Sea.

JULY 23.—**Ealing.**—ROADS.—For the making-up of private gardens, Warwick-place, and back alleys of the West Elers Estate. Drawings and specification seen, and forms of tender, with quantities and particulars, from Mr. Charles Jones, M.Inst.C.E., Borough Engineer, Town Hall, Ealing, W., on deposit of 2*l.* 2s.

JULY 23.—**London.**—ROADS.—For sewering, levelling, paving, metalling, kerbing, channelling, and making good passage at rear of Royal-parade, Colney Hatch-lane, and back way by Wightman-road, leading to Denmark-road, Hornsey. Forms of tender, etc., and particulars from Mr. E. J. Lovegrove, Borough Engineer and Surveyor, Municipal Offices, Highgate.

JULY 23.—**Neath.**—GRANITE.—For the supply of granite or syenite, and limestone metalling. Specification and form of tender from Mr. D. M. Jenkins, Borough Engineer, Neath.

✱ JULY 24.—**Hampstead.**—SINKS.—The Metropolitan Asylums Board invite tenders for providing and filling-up bed-pan and other sinks. See advertisement in this issue for further particulars.

JULY 29.—**Chester-le-Street.**—ROAD.—For the construction of a new road between Roper's-lane, Chester-le-Street, and Scorer's-lane, near Tinkler House. Mr. W. Ayton, Highway Surveyor, Chester-le-Street. Deposit of 3*l.*

JULY 29.—**Goole.**—DRAINAGE.—For the construction of a main drainage scheme. Plans and specifications by Messrs. J. Taylor, Sons, & Santo Crimp, civil engineers, Caxton House, Westminster, S.W. Deposit of 5*l.* to the Clerk to the Goole U.D.C.

✱ JULY 31.—**Hammersmith.**—PAVING, ETC.—The Hammersmith B.C. invite tenders for making-up and paving carriageway and footways. See advertisement in this issue for further particulars.

Public Appointment.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
*THREE BUILDING INSPECTORS	Bradford Corporation	120*l.* per annum.....	July 20

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*FREEHOLD BUILDING ESTATE, MIDDLESEX—At the Mart	S. Walker & Son	July 16
*FREEHOLD BUILDING PLOTS, NORBURY—At King William IV. Hotel, Norbury	E. Evans & Sons	July 18
*FREEHOLD CEMENT WORKS SITE & CLAY ISLAND—At Bull Hotel, Rochester, Kent	Fuller, Horsey, Sons, & Cassell	July 19
*FREEHOLD BUILDING SITE, SIDCUP—At the Mart	Daniel Watney & Sons	July 25
*MACHINERY, PLANT, FREEHOLD HOUSE—Wareham Cement Works, Wareham	J. Baker, Cook, & Standen	July 25
*FREEHOLD BUILDING LAND, POTTERS BAR—At the Mart	Elliott, Son, & Boyton	July 27

SOME RECENT SALES—*continued from page 59.*

By KIVELL & HARRIS.

Pancrasweek, Devon.—Stuchey Estate, 2,350 acres, f. £31,875

June 27.—By HALL, PAIN, & GOLDSMITH.

Farlington, Hants.—Farlington and Lower Farlington Farms, 341 acres, f. 10,000

Bedhampton, Hants.—Park and Smiths Farms, etc., 318 acres, f. 10,251

By W. SALISBURY & HAMER.

Clayton-le-Dale, Lancs.—Part of De Tabley Estate, 620 acres, f. 23,372

Chief rents 176l. 7s. 7d. 4,375

By G. B. HILLIARD & SON.

Wickham St. Paul's, Essex.—Wickham Hall Estate, 474 a. 0 r. 28 p., f. 10,440

By JAMES TURNBULL & SON.

Ingleton, Durham.—Hill Side and Low Hulam Farm, 327 acres, f. 4,300

Startforth, Yorks.—Thorsgill Farm, 90 a. 2 r. 32 p., f. 3,350

Romaldkirk, Yorks.—How Gill Grange and Tin Ten Farms, 412 acres, f. 4,700

By W. ARNOTT & SON.

Ufford, Suffolk.—Hill Farm, 36 a. 2 r. 12 p., f. and c. 570

Charsfield, Suffolk.—Brook Farm, etc., 97 acres, f. 2,149

June 28.—By KNIGHT, FRANK, & RUTLEY.

Finedon, Northants.—Finedon Hall Estate, 1,565 acres, f. 46,212

By G. B. HILLIARD & SON.

Chelmsford, Essex.—34 and 35, Broomfield-rd., f. 555

West Hanningfield, Essex.—Gay Bowers Farm, 8 a. 1 r. 12 p., f. 470

By WHITTON & LAING.

Shobrooke, Devon.—Yendacott Manor Estate, 359 a. 2 r. 39 p., f. 11,100

June 29.—By IRELAND.

Aylsham, Norfolk.—The Belt, 250 a. 2 r. 3 p., f. and c. 9,500

Banningham, Norfolk.—Farm, 45 a. 2 r. 37 p., f. and c. 1,500

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent, av. for avenue; gdns. for gardens; yd. for yard; gr. for grove; b.h. for beerhouse; p.h. for public-house; o. for offices; s. for shops; ct. for court.

TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name); those relating to advertisements and other exclusively business matters should be addressed to "THE PUBLISHER," and not to the Editor.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples, sent to or left at this office, unless he has specially asked for them.

All drawings sent to or left at this office for consideration should bear the owner's name and address on either the face or back of the drawing. Delay and inconvenience may result from inattention to this.

Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

PRICES CURRENT OF MATERIALS.

**** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

Per 1000 Alongside, in River.	£ s. d.
Best Stocks	1 14 0
Picked Stocks for Facings	2 10 0

BRICKS, &c. (*Continued*).

Per 1000, Delivered at Railway Depôt.

	£ s. d.		£ s. d.
Flettons	1 13 0	Best Blue Pressed Staffordshire	3 15 0
Best Fareham Red	3 12 0	Do. Bullnose	4 0 0
Best Red Pressed Ruabon Facing	5 0 0	Best Stourbridge Fire Bricks	4 0 0
GLAZED BRICKS—			
Best White, Ivory, and Salt Glzd. Str'tch'rs	11 7 6	Double Headers	13 17 6
Headers	10 17 6	One Side and two Ends	17 17 6
Quoins, Bullnose, and 4½ in. Flats	14 17 6	Two Sides and one End	18 17 6
D'ble Stretchers	16 17 6	Splays & Squints	16 7 6

Second Quality £1 10s. per 1000 less than best.

	s. d.	
Thames and Pit Sand	6 9	per yard, delivered.
Thames Ballast	5 6	" "
Best Portland Cement	31 0	per ton, "
Best Ground Blue Lias Lime	19 0	" "

NOTE—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 13s. 0d. per yard delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton at rly dpt.

STONE.

Per Ft. Cube.

	s. d.
BATH STONE—delivered on road waggons, Paddington Depôt	1 7½
Do. do. delivered on road waggons, Nine Elms Depôt	1 9½
PORTLAND STONE (20 ft. average)—	
Brown Whitbed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 3
White Basebed, delivered on road waggons Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 4½

Per Ft. Cube, delivered at Railway Depôt.

	s. d.		s. d.
Ancaster in blocks	1 10	Closeburn Red Freestone	2 0
Beer in blocks	1 6	Red Mansfield Freestone	2 4
Greenshill in blocks	1 10	Talacre & Gwespyr Stone	2 4
Darley Dale in blocks	2 4		
Red Corsehill in blocks	2 3		

YORK STONE—*Robin Hood Quality.*

Per Ft. Cube, Delivered at Railway Depôt.	s. d.
Scappled random blocks	2 10
Per Ft. Super., Delivered at Railway Depôt.	
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 3
6 in. rubbed two sides ditto, ditto	2 6
3 in. sawn two sides slabs (random sizes)	0 11½
2 in. to 2½ in. sawn one side slabs (random sizes)	0 7
1½ in. to 2 in. ditto, ditto	0 6

HARD YORK—

Per Ft. Cube, Delivered at Railway Depôt.	s. d.
Scappled random blocks	3 0
Per Ft. Super., Delivered at Railway Depôt.	
6 in. sawn two sides landing to sizes (under 40 ft. super.)	2 8
6 in. rubbed two sides ditto	3 0
3 in. sawn two sides slabs (random sizes)	1 2
2 in. self-faced random flags	0 5

SLATES.

Per 1000 of 1200 at Railway Depôt.

In. In.	£ s. d.	In. In.	£ s. d.
20×10 best blue Bangor	13 2 6	20×10 best Eur'ka unfading green	15 17 6
20×12 ditto	13 17 6	20×12 ditto	18 7 6
20×10 1st quality ditto	13 0 0	18×10 ditto	13 5 0
20×12 ditto	13 15 0	16×8 ditto	10 5 0
16×8 ditto	7 5 0	20×10 permanent green	11 12 6
22×10 best blue Portmadoc	12 12 6	18×10 ditto	9 12 6
16×8 ditto	6 12 6	16×8 ditto	6 12 6

TILES.

At Railway Depôt.

	s. d.		s. d.
Best plain red roofing (per 1000)	42 0	Best "Hartshill" brand, plain sand-faced (per 1000)	45 0
Hip and Valley (per doz.)	3 7	Do. pressed (per 1000)	42 6
Best Broseley (per 1000)	50 0	Do. Ornamental (per 1000)	47 6
Do. Ornamental (per 1000)	52 6	Hip (per doz.)	4 0
Hip and Valley (per doz.)	4 0	Valley (per doz.)	3 6
Best Ruabon red, brown, or brindled (Edw'ds) (per 1000)	57 6	Staffords. (Hanley) Reds or Brindled (per 1000)	42 6
Do. Ornamental (per 1000)	60 0	Hand-made sand-faced (per 1000)	45 0
Hip (per doz.)	4 0	Hip (per doz.)	4 0
Valley (per doz.)	3 6	Valley (per doz.)	3 6

WOOD.

BUILDING WOOD.	At per standard. £ s. d.		£ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	14 0 0	...	15 10 0
Deals: best 3 by 9	13 10 0	...	14 10 0
Battens: best 2½ in. by 7 in. and 8in., and 3 in. by 7 in. and 8 in.	11 10 0	...	12 10 0
Battens: best 2½ by 6 and 3 by 6	0 10 0		less than 7 in. and 8 in.
Deals: seconds	1 0 0		less thn best.
Battens: seconds	0 10 0	"	"
2 in. by in. and 2 in. by 6 in.	9 10 0	...	10 10 0
2 in. by 4½ in. and 3 in. by 5 in.	9 0 0	...	10 0 0
Foreign Sawn Boards—			
1 in. and 1¼ in. by 7 in.	0 10 0		more than battens.
¾ in.	1 0 0		"

Fir timber: best middling Danzig or Memel (average specification)	At per load of 50 ft. 5 0 0	...	5 10 0
Seconds	4 10 0	...	5 0 0
Small timber (8 in. to 10 in.)	3 17 6	...	4 0 0
Small timber (6 in. to 8 in.)	3 5 0	...	3 10 0
Swedish balks	2 12 6	...	3 0 0
Pitch-pine timber (30 ft. average)	5 5 0	...	6 0 0

JOINERS' WOOD.	At per standard.		
White Sea: first yellow deals, 3 in. by 11 in.	24 10 0	...	25 10 0
3 in. by 9 in.	22 10 0	...	23 10 0
Battens, 2½ in. and 3 in. by 7 in.	17 0 0	...	18 0 0
Second yellow deals, 3in. by 11in.	19 0 0	...	20 0 0
" " 3 in. by 9 in.	18 0 0	...	19 10 0
Battens, 2½ in. and 3in. by 7 in.	14 0 0	...	15 0 0
Third yellow deals, 3 in. by 11 in. and 9 in.	14 0 0	...	15 0 0
Battens, 2½ in. and 3 in. by 7 in.	11 10 0	...	12 10 0
Petersburg: first yellow deals, 3 in. by 11 in.	21 10 0	...	22 10 0
Do. 3 in. by 9 in.	18 10 0	...	19 10 0
Battens	14 0 0	...	15 0 0
Second yellow deals, 3 in. by 11 in	16 10 0	...	17 10 0
Do. 3 in. by 9 in.	15 0 0	...	16 0 0
Battens	11 10 0	...	12 10 0
Third yellow deals, 3in. by 11 in.	13 10 0	...	14 10 0
Do. 3 in. by 9 in.	13 0 0	...	14 0 0
Battens	10 10 0	...	11 0 0
White Sea and Petersburg—			
First white deals, 3 in. by 11 in.	15 0 0	...	16 0 0
" " 3 in. by 9 in.	14 0 0	...	14 10 0
Battens	11 10 0	...	12 10 0
Second white deals, 3in. by 11in.	14 0 0	...	15 0 0
" " 3 in. by 9 in.	13 0 0	...	14 0 0
Battens	10 10 0	...	11 0 0
Pitch-pine: deals	19 0 0	...	21 0 0
Under 2 in. thick extra	0 10 0	...	1 0 0
Yellow Pine—First, regular sizes	48 0 0		upwards.
Oddments	32 0 0		"
Seconds, regular sizes	33 0 0		"
Oddments	28 0 0		"

Kauri Pine—Planks per ft. cube	0 4 6	...	0 6 0
Danzig and Stettin Oak Logs—			
Large, per ft. cube	0 3 0	...	0 3 9
Small " "	0 2 6	...	0 2 6
Wainscot Oak Logs, per ft. cube	0 6 6	...	0 8 0
Dry Wainscot Oak, per ft. sup. as inch	0 0 10	...	0 1 0
¾ in. do. do.	0 0 8½	...	—
Dry Mahogany—Houndras, Tabasco, per ft. super. as inch	0 0 10	...	0 1 1
Selected, Figury, per ft. super. as inch	0 1 6	...	0 2 6
Dry Walnut, American, per ft. super. as inch	0 0 10	...	0 1 0
Teak, per load	18 0 0	...	22 0 0
American Whitewood planks, per ft. cube	0 5 0	...	0 6 0

Prepared Flooring, etc.—	Per square.		
1 in. by 7 in. yellow, planed and shot	0 13 6	...	0 17 0
1 in. by 7 in. yellow, planed and matched	0 14 0	...	0 18 0
1¼ in. by 7 in. yellow, planed and matched	0 16 0	...	1 0 0
1 in. by 7 in. white, planed and shot	0 12 0	...	0 14 6
1 in. by 7 in. white, planed and matched	0 12 6	...	0 15 0
1¼ in. by 7 in. white, planed and matched	0 15 0	...	0 16 6
¾ in. by 7 in. yellow, matched and beaded or V-jointed brds.	0 11 0	...	0 13 6
1 in. by 7 in. " "	0 14 0	...	0 18 6
¾ in. by 7 in. white " "	0 10 0	...	0 11 0
1 in. by 7 in. " "	0 12 9	...	0 15 0

6 in. at 6d. to 9d. per square less than in.

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £ s. d.		£ s. d.
Rolled Steel Joists, ordinary sections	7 10 0	...	8 0 0
Compound Girders, ordinary sections	9 10 0	...	10 0 0
Steel Compound Stanchions	11 0 0	...	12 0 0
Angles, Tees, and Channels, ordinary sections	9 10 0	...	10 0 0
Flitch Plates	9 10 0	...	9 10 0
Cast Iron Columns & Stanchions, including ordinary patterns	7 10 0	...	8 10 0

METALS.

	Per ton, in London. £ s. d.		£ s. d.
IRON—			
Common Bars	9 0 0 ...		9 10 0
Staffordshire Crown Bars, good merchant quality	9 5 0 ...		9 15 0
Staffordshire "Marked Bars"	11 0 0 ...		—
Mild Steel Bars	9 5 0 ...		9 15 0
Hoop Iron, basis price	10 0 0 ...		—
" " Galvanised	17 10 0 ...		—
(*And upwards, according to size and gauge.)			
Sheet Iron Black—			
Ordinary sizes to 20 g.	10 5 0 ...		—
" " 24 g.	11 5 0 ...		—
" " 26 g.	12 15 0 ...		—
Sheet Iron, Galvanised, flat, ordinary quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 10 0 ...		—
Ordinary sizes to 22 g. and 24 g.	16 0 0 ...		—
" " 26 g.	17 0 0 ...		—
Sheet Iron, Galvanised, flat, best quality—			
Ordinary sizes to 20 g.	18 10 0 ...		—
" " 22 g. and 24 g.	19 0 0 ...		—
" " 26 g.	20 10 0 ...		—
Galvanised Corrugated Sheets—			
Ordinary sizes, 6ft. to 8ft. 20 g.	15 0 0 ...		—
" " 22 g. and 24 g.	15 5 0 ...		—
" " 26 g.	16 15 0 ...		—
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	12 10 0 ...		—
Best Soft Steel Sheets, 2 g. & 24 g.	13 10 0 ...		—
" " " 26 g.	15 10 0 ...		—
Cut Nails, 3 in. to 6 in.	11 0 0 ...		11 10 0
(Under 3 in., usual trade extras.)			

LEAD, &c.

	£ s. d.		
LEAD—Sheet, English, 4lb. and up	22 7 6 ...		—
Pipe in coils	22 17 6 ...		—
Soil pipe	25 17 6 ...		—
Compo pipe	25 17 6 ...		—
ZINC—Sheet—	In casks of 10 cwt.		
Vielle Montagne	33 15 0 ...		—
Silesian	33 10 0 ...		—
Zinc, in bundles, 1s. per cwt. extra.			
COPPER—			
Strong Sheet per lb.	0 1 0 ...		—
Thin " "	0 1 1 ...		—
Copper nails "	0 0 10 ...		—
Copper wire "	0 0 10 ...		—
BRASS—			
Strong Sheet "	0 0 11 ...		—
Thin "	0 1 0 ...		—
TIN—English Ingots "	0 2 0 ...		—
SOLDER—Plumbers' "	0 0 9½ ...		—
Tinmen's "	0 1 0½ ...		—
Blowpipe "	0 1 2½ ...		—

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.

15 oz. thirds	2¼d.	26 oz. fourths	3¼d.
" fourths	1¾d.	32 oz. thirds	5d.
21 oz. thirds	3¼d.	" fourths	4¼d.
" fourths	2¼d.	Fluted Sheet, 15 oz.	3¼d.
26 oz. thirds	4d.	" 21 oz.	4¼d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.

⅛ Rolled plate	2¼d.	Figured Rolled, Oxford Rolled, Oceanic, Arctic, Muffled, and Rolled Cathedral, white	3¼d.
1/16 Rough rolled and rough cast plate	3¼d.	Ditto, tinted	5d.
¼ Rough rolled and rough cast plate	3d.		

* Not less than two crates.

OILS, &c.

		£ s. d.
Raw Linseed Oil in pipes	per gallon	0 3 10
" " " in barrels	"	0 3 11
" " " in drums	"	0 4 1
Boiled " " in barrels	"	0 4 1
" " " in drums	"	0 4 4
Turpentine in barrels	"	0 3 0
" in drums	"	0 3 2
Genuine Ground English White Lead,	per ton	30 0 0
Red Lead, Dry	"	26 10 0
Best Linseed Oil Putty	per cwt.	0 10 6
Stockholm Tar	per barrel	1 12 0

VARNISHES, &c.

	Per gallon. £ s. d.
Fine Pale Oak Varnish	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of Churches	0 14 6
Fine Elastic Carriage	0 12 0
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 10 0
Finest Pale Durable Copal	0 18 0
Extra Pale French Oil	1 1 0
Eggshell Flating Varnish	0 18 0
White Pale Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knotting	0 10 9
French and Brush Polish	0 10 6

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TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 6 p.m. on Wednesday.* [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.* unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

ALLINGTON (Wilts).—For extensions to waterworks. Mr. T. J. Moss-Flower, C.E., engineer, Westminster and Bristol:—

Downing & Rudman, Chippenham ..... } Accepted on a schedule of prices.

BARRY.—For erection of a house at Romilly Park, for Mr. F. N. Jones. Messrs. J. Jones and P. Thomas, architects, Cardiff. Quantities by architects:—

H. S. Rendell	£1,613 0 0	W. Britton	£1,448 0 0
D. Francis	1,600 16 9	S. J. Martyn, St. Nicholas	
Griffiths & Son	1,537 0 0		
H. Fisher	1,510 15 10	road, Barry‡	1,416 4 10
Vickery Bros.	1,459 10 0	Gibby & Cleak‖	1,070 0 0

‡ Accepted subject to amendments. ‖ Withdrawn.

BUCKLEY.—For the erection of a classroom, cloakrooms, etc., at the Bistre Church of England School. Mr. F. A. Roberts, M.S.A., architect and surveyor, Mold:—

G. H. Wright	£485 0	John Price	£448 10
Parker Bros.	479 0	Hayes Bros., Buckley*	418 19
G. Cash & Sons	479 0		

CROSTWICK (Norfolk).—For erection of a new school for Norfolk Education Committee. Messrs. Morgan & Buckingham, architects, Norwich and Diss:—

E. Norgate	£979 1 3	S. E. Hodge	£873 14 1
Scarles Bros.	947 0 0	A. A. M. Tyrell	865 4 0
Riches & Son	935 0 0	F. R. Hipperson	850 0 0
Podd & Fisher	934 10 0	W. J. Hannant, Norwich*	797 0 0
English & Son	886 10 5		

HALESWORTH (Suffolk).—For bungalow, for Mr. C. H. White. Messrs. Morgan & Buckingham, architects, Norwich:—

W. J. Hannant, Norwich	£670
Howard Bros., Halesworth‡	612
Gill & Son, Norwich	593

‡ Accepted subject to variations.

HARROGATE.—For erection of a new garage for the Directors of the Harrogate Hydropathic Co., Ltd.:—

Walter Richardson, Outwood, Wakefield* £1,308 2

[All trades included.]

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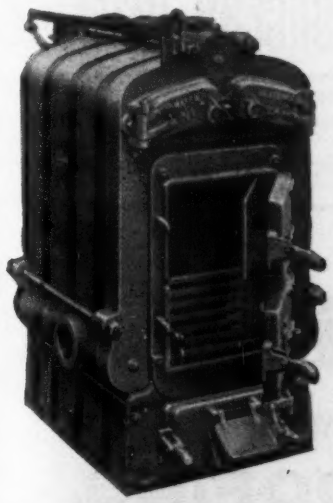

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KELLOE.—For alterations and additions to the Primitive Methodist chapel. Mr. J. Wilson Hays, architect, Wingate, Co. Durham. Quantities by Mr. J. Wilson Hays:—

R. C. Brown	£884 10 0	Thompson & Denison	£730 0 0
A. Stephenson	835 15 0	L. W. Rowe	677 7 6
J. W. Moore	817 0 0	Regan Bros., Old Trundon*	480 0 0
E. M. Tweddle	800 0 0		
Sanderson & Son	751 4 0		

LONDON.—For heating installation at the County Secondary School, Streatham, for the London County Council:—

Palowkar & Sons	£1,560	H. J. Cash & Co., Ltd	£1,381
J. Yetton & Co., Ltd.	1,540	G. & E. Bradley	1,331
W. J. Burroughes & Sons	1,500	Brightside Foundry & Engineering Co., Ltd.	1,327
J. Grundy, Ltd.	1,497	W. G. Cannon & Sons, Ltd., 107, London-road, Southwark	1,320
Hayward Bros. & Ekstein, Ltd.	1,458		
J. & F. May	1,339		
Tilley Bros.	1,338		

LONDON.—For supply of low-tension cables, etc., required in connexion with the Council's tramways for the London County Council:—

W. T. Henley's Telegraph Works Co., Ltd.	£6,892 16 3
W. T. Glover & Co., Ltd.	6,868 15 0
Callender's Cable and Construction Co., Ltd.	6,819 14 4
Siemens Bros. & Co., Ltd.	6,730 6 10
Western Electric Co., Ltd.	6,749 14 0
British Insulated and Helsby Cables, Ltd.	6,747 14 2
Johnson & Philips, Ltd., Charlton, Kent	6,663 5 0

[The estimate of the Chief Officer of Tramways comparable with the tenders is £6,400.]

LONDON.—For painting, etc., at the St. Dunstan's-road School, Fulham, for the London County Council:—

Dole & Co.	£771 0 0	W. R. & A. Hide	£720 10 0
T. Bendon, Ltd.	758 5 0	A. & F. Polden	712 10 0
A. Roberts & Co., Ltd.	750 0 0	T. W. Heath & Son	680 0 0
C. Johnson	746 0 0	G. McArthur & Co., 40, Greyhound-road, Fulham	644 18 6
W. Brown & Sons, Ltd.	731 12 6		
W. J. Dickens	724 0 0		

LONDON.—For cleaning and painting at the Sidney-road School, Hackney, for the London County Council:—

J. Haydon & Sons	£751 9 0	W. Silk & Son	£667 0 0
W. Shurmur & Sons, Ltd.	710 0 0	H. C. Horswill, 182, Green-street, Forest Gate	612 0 0
W. F. Blay, Ltd.	697 0 0		
C. R. Price	687 0 0		

LONDON.—For painting, etc., at the Essendine-road School, Paddington, for the London County Council:—

I. C. Tennant & Co.	£924 11 9
T. Strong & Co.	754 9 6
J. Allen & Sons, Ltd.	691 0 0
W. Chappell, 243, Elgin-avenue, Maida Vale	690 5 3

LONDON.—For enclosing the Magdalen road site, Wandsworth, with walls, railings, gates, etc., for the London County Council:—

W. King & Son	£3,000	R. A. Jewell	£2,232
J. Smith & Sons	2,514	W. Akers & Co.	2,167
Rice & Son	2,497	Galbraith Bros., Ltd.	2,125
Lathey Bros.	2,497	Triggs & Co.	2,146
J. Garrett & Son	2,447	F. W. Fletcher	2,075
G. E. Wallis & Sons, Ltd.	2,376	F. & G. Foster	1,744
A. Roberts & Co., Ltd.	2,300		

LONDON.—For cleaning, painting, etc., at Rotherhithe New-road School, for the London County Council:—

Vizor & Co.	£933	H. Groves, Stockwell-street, Greenwich	£822
W. Bailey	850		
W. Harris	822		

LONDON.—For erection of a schoolkeeper's house and other work at the Baltic-street School, for the London County Council:—

T. W. Heath & Sons	£1,708 6 10
Lenn, Thornton, & Co.	1,658 14 11
McLaughlin & Harvey, Ltd.	1,649 0 0
Woodward & Co.	1,597 19 7
J. Garrett & Son	1,594 4 3
H. & E. Lea	1,553 0 0
W. F. Blay, Ltd.	1,489 0 0
L. H. & R. Roberts	1,434 0 0
C. P. Roberts & Co., Ltd.	1,324 0 0

[The architect's estimate comparable with the tenders is £1,375.]

LONDON.—For cleaning and painting at the Monteith-road School, Bow and Bromley, for the London County Council:—

Stevens & Sons	£1,087 18 0	G. Munday & Sons	£980 0 0
Griggs & Son	1,072 0 0	C. Wall, Ltd.	970 0 0
F. Bull	1,011 0 0	F. & T. Thorne, Isle of Dogs	946 0 0
Vigor & Co.	906 0 0		

NORWICH.—For additions to warehouse, for Mr. Geo. Attoe. Messrs. Morgan & Buckingham, architects, Norwich:—

Stowers & Son	£635 0 0	T. H. Yelf	£477 0 0
H. Barnes	508 0 0	W. J. Hannant	470 0 0
Scarles Bros.	528 0 0	Anderson & Son.,	469 0 0
A. Tyrrell	489 0 0	Wicks & Son, Ltd.	466 0 0
A. W. Wilson	481 2 6	H. C. Greengrass*	443 0 0

NORWICH.—For alterations and additions to garage, for Messrs. Duff, Morgan, & Vermont. Messrs. Morgan & Buckingham, architects, Norwich:—

F. Hipperson	£1,167 7	T. H. Yelf	£993 0
Hurn & Son	1,150 0	W. J. Hannant*	957 0
Scarles Bros.	1,137 0		

NORWICH.—For alterations to Victoria Garage, for Messrs. Duff, Morgan, & Vermont. Messrs. Morgan & Buckingham, architects, Norwich:—

W. J. Hannant	£547 0	T. H. Yelf	£412 0
F. Hipperson	527 10	Scarles Bros.*	397 0
Hurn & Son	525 0		

NORWICH.—For new cinematograph theatre for Mr. Charles Thurston. Messrs. Morgan & Buckingham, architects, Norwich:—

J. Youngs & Son	£1,523	W. J. Hannant	£3,767
T. Gill & Son	4,079	T. H. Yelf*	3,590
Scarles Bros.	3,780		

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PARKSTONE.—For new infants' school, Courthill-road, Parkstone, for the Borough of Poole Education Committee. Mr. S. J. Newman, F.R.I.B.A., Borough Surveyor. Quantities supplied:—

A. B. & E. A. Burden	£3,187 0	Burt & Vick	£2,843 10
Jones & Seward	2,999 0	Jenkins & Sons, Ltd., Bournemouth*	2,823 0
H. W. King	2,848 0		
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SANDS.—For Primitive Methodist chapel, Sands, near High Wycombe. Mr. A. W. Nash, architect, 27, Priory-avenue, High Wycombe:—

Clarke	£873	Jefferson	£825
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Walter Richardson, Outwood, Wakefield*	£422 6 3

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WOOLWICH.—For painting, etc., at the Plumstead-road School, Woolwich, for the London County Council:—

Friday & Ling	£772 7 0	G. E. Wallis & Sons, Ltd	£639 0 0
E. A. Lowe & Co.	741 0 0	Kirk & Randall	627 0 0
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